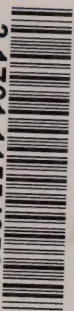



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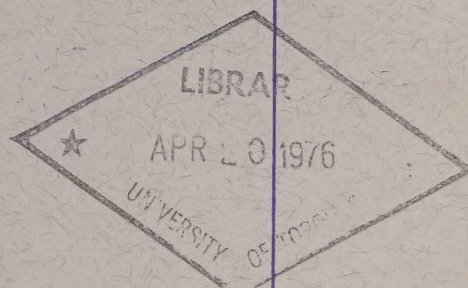
**OCEANOGRAPHIC OBSERVATIONS
AT OCEAN STATION P
(50° N, 145° W)**

Volume 61

2 August - 18 September 1974

by

B.J. Cox, C. de Jong



INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY

Victoria, B.C.

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PACIFIC MARINE SCIENCE REPORT 75-4

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October, 1975

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ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weather ship at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, conductivity-temperature-pressure instruments, and mechanical and expendable bathythermographs. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (latitude $50^{\circ}00'N$, longitude $145^{\circ}00'W$) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the CCGS VANCOUVER and the CCGS QUADRA. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July, 1952. A program of more extensive oceanographic observations commenced in August, 1956. This was extended in April, 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at $40'$, i.e., $139^{\circ}40'W$, $141^{\circ}40'W$, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al*, (1969) .

The present record includes hydrographic, bathythermograph and continuously sampled STP data collected from the CCGS

VANCOUVER during the period 2 August to 18 September, 1974.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, B.C., Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Department of the Environment, 512-1230 Government Street, Victoria, B.C., Canada.

PROGRAM OF OBSERVATIONS FROM CCGS VANCOUVER,
2 AUGUST - 18 SEPTEMBER, 1974 (P-74-7)
(CODC REF. NO. 15-74-007)

Oceanographic observations were made by Mr. B.J. Cox, Ocean and Aquatic Sciences, Department of the Environment.

En route to Station P, all Line P stations were occupied and a STP profile taken to near bottom or 1500 metres. Salinity, nitrate, nutrient, alkalinity and total CO₂ samples were taken at that time from the seawater loop. BT's or XBT's were taken at these stations and BT stations. A surface tar-ball tow was taken at stations 7 and 11. The thermosalinograph was run only when Line P stations were occupied. The surface temperature recorder was run continuously.

I. Physical Oceanography

1. Profiles of salinity, temperature and oxygen were obtained weekly from 6 hydrographic stations.
2. STP profiles to 1500 metres following the hydrographic stations.
3. STP profiles to 300 metres between the hydrographic stations.
4. BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.
5. Salinity samples daily at 0000 hrs GMT from the seawater loop.

II. Marine Geochemistry

1. Samples for alkalinity and total CO₂ were obtained from standard depths to 4200 metres and every three days from the seawater loop.
2. Samples for nutrients, phosphate, tritium and salinity were obtained from 6 depths to 500 metres and daily at 0000 hrs GMT from the seawater loop. Nutrient and phosphate samples were also collected once every hour for a 24 hour period.
3. Air CO₂ samples weekly in duplicate.
4. One seawater C-14 sample extracted from the seawater loop.
5. Two surface tarball tows were made at a speed of 4 knots. The duration of each tow was approximately 35 mins.

III. Biological and Productivity

Samples were obtained as follows:

1. 33 - 150 metre vertical plankton hauls.
2 - 1200 metre vertical plankton hauls.
8 - Surface plankton tows for 10 minutes at sundown.
39 - Micro and nano organism samples filtered from
the seawater loop.
2. Samples for plant pigment, nitrate and C_{14} productivity
were obtained from 3 stations to 200 metres.
3. Only one 5½ lb. salmon was caught.

IV. Observations for Other Agencies

1. Marine mammal observations were made by the ship's
officers for Mr. I. McAskie, Fisheries Research Board
of Canada, the Biological Station, Nanaimo, B.C.,
Canada.
2. Bird observations were made by the ship's officers for
Dr. M. Myres, University of Alberta, Calgary, Alberta,
Canada.

Enroute from Station P, stations 12, 11, 5, 4 and 3
were occupied and a STP profile taken to 1500 metres. Salinity,
nitrate, nutrient, alkalinity and total CO_2 samples were taken
at stations 12-3. BT's or XBT's were taken at all Line P and
BT stations. A surface tarball tow was taken at stations 4 and
3. The thermosalinograph and surface temperature recorder were

run continuously. The data was processed, assembled and edited for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of German (Richter and Wiese) or Japanese (Yoshino Keiki Co.) manufacture. Two protected thermometers were used on all Nansen bottles, and one unprotected thermometer was used on each bottle at depths of 300 metres or greater. The accuracy of protected reversing thermometers is believed to be $\pm 0.02^{\circ}\text{C}$.

Surface water temperatures were measured from a bucket sample using a deck thermometer of $\pm 0.1^{\circ}\text{C}$ accuracy.

Salinity determinations were made aboard ship with either an Auto-Lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ppt.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and $\pm 0.5\%$ of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the ship-

board laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Model 15303836 Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be $\pm 0.1^{\circ}\text{C}$.

The ship is equipped with a Bissett Berman Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder is situated in the dry lab. The accuracy of this instrument is believed to be $\pm 0.1^{\circ}\text{C}$ for temperature and ± 0.1 ppt for salinity.

STP profiles were taken with a Guildline Model 8101 STP system.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs \log_{10} depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp Plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values

were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm ²
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

REFERENCES

- Carpenter, J.H. 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. Limnol. and Oceanogr., 10: 141-143.
- Collins, C.A., R.L. Tripe, D.A. Healey, and J. Joergensen. 1969. The time distribution of serial oceanographic data from the ocean Station P programme. Fish. Res. Bd. Can. Tech. Rept. No. 106.
- Reiniger, R.F., and C.K. Ross. 1968. A method of interpolation with application to oceanographic data. Deep Sea Res., 15: 185-193.
- U.S.N. Hydrographic Office. 1955. Instruction manual for oceanographic observations, Publ. No. 607.

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P-74-7.
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P-74-7.
- Figure 5 Salinity difference between hydro data and STP.
P-74-7.
- Figure 6 Temperature difference between hydro data and
STP. P-74-7.

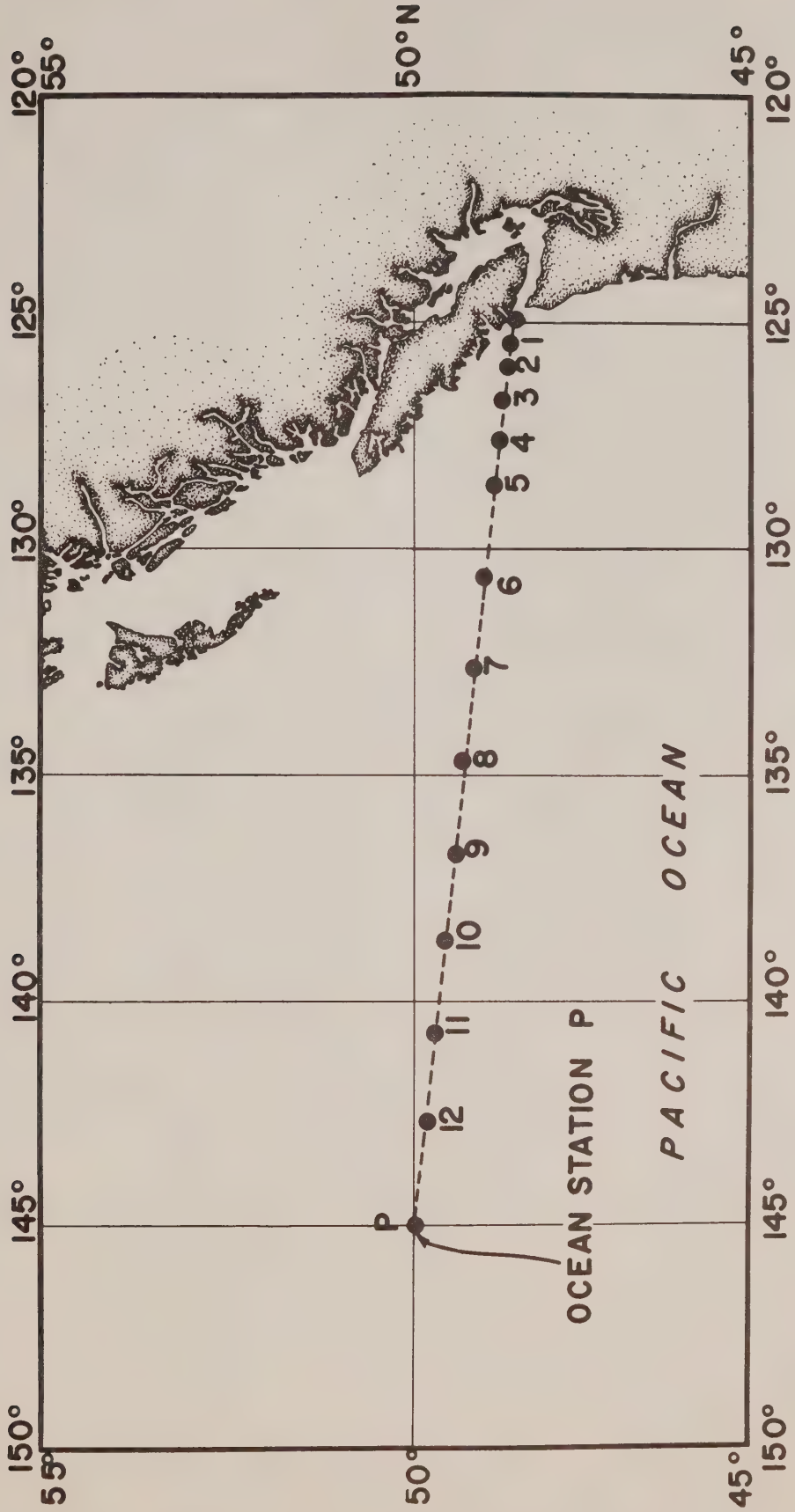


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-74-7

(CODC REFERENCE No. 15-74-007)

RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-74-7)

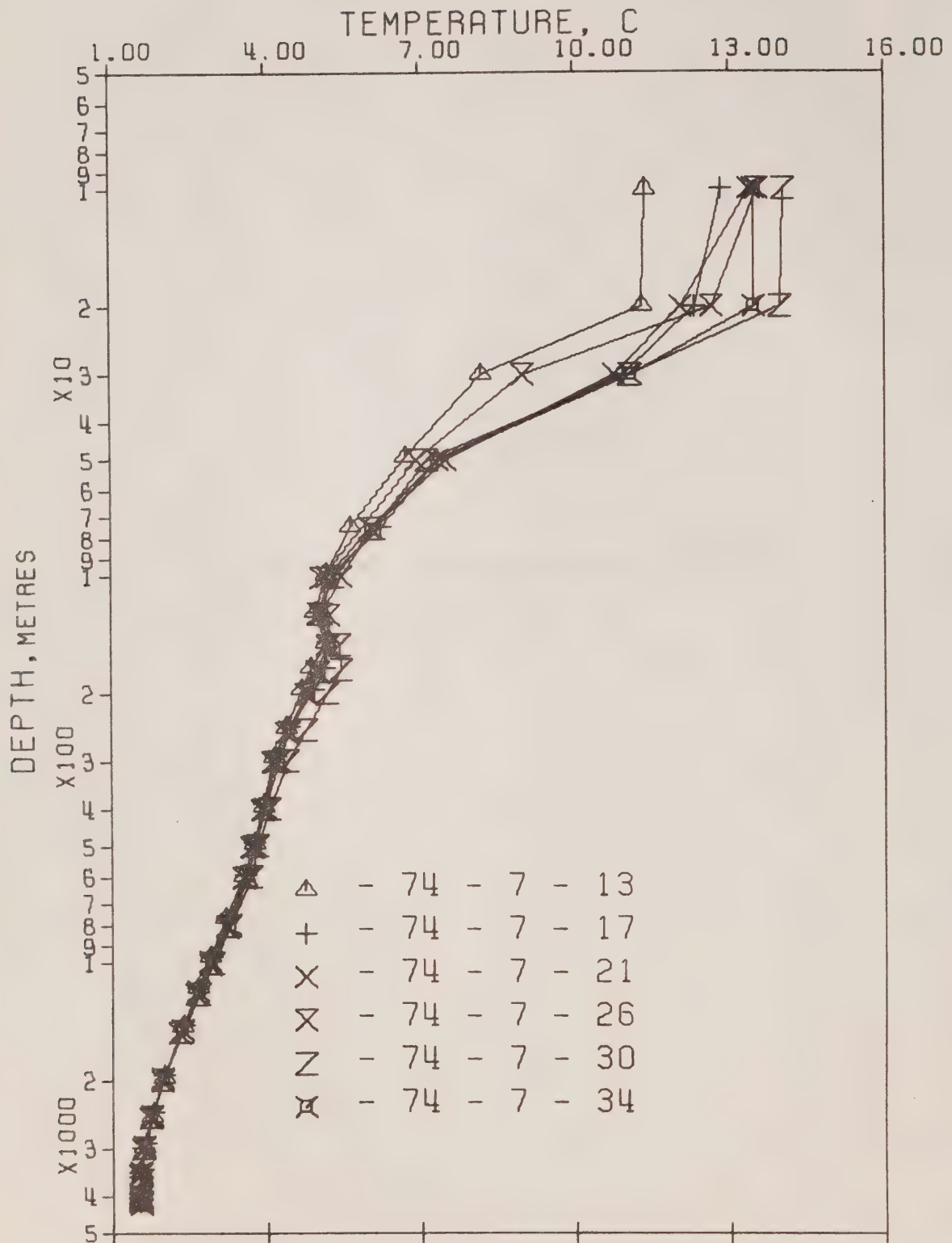


Figure 2 Composite plot of temperature vs \log_{10} depth.
P-74-7.

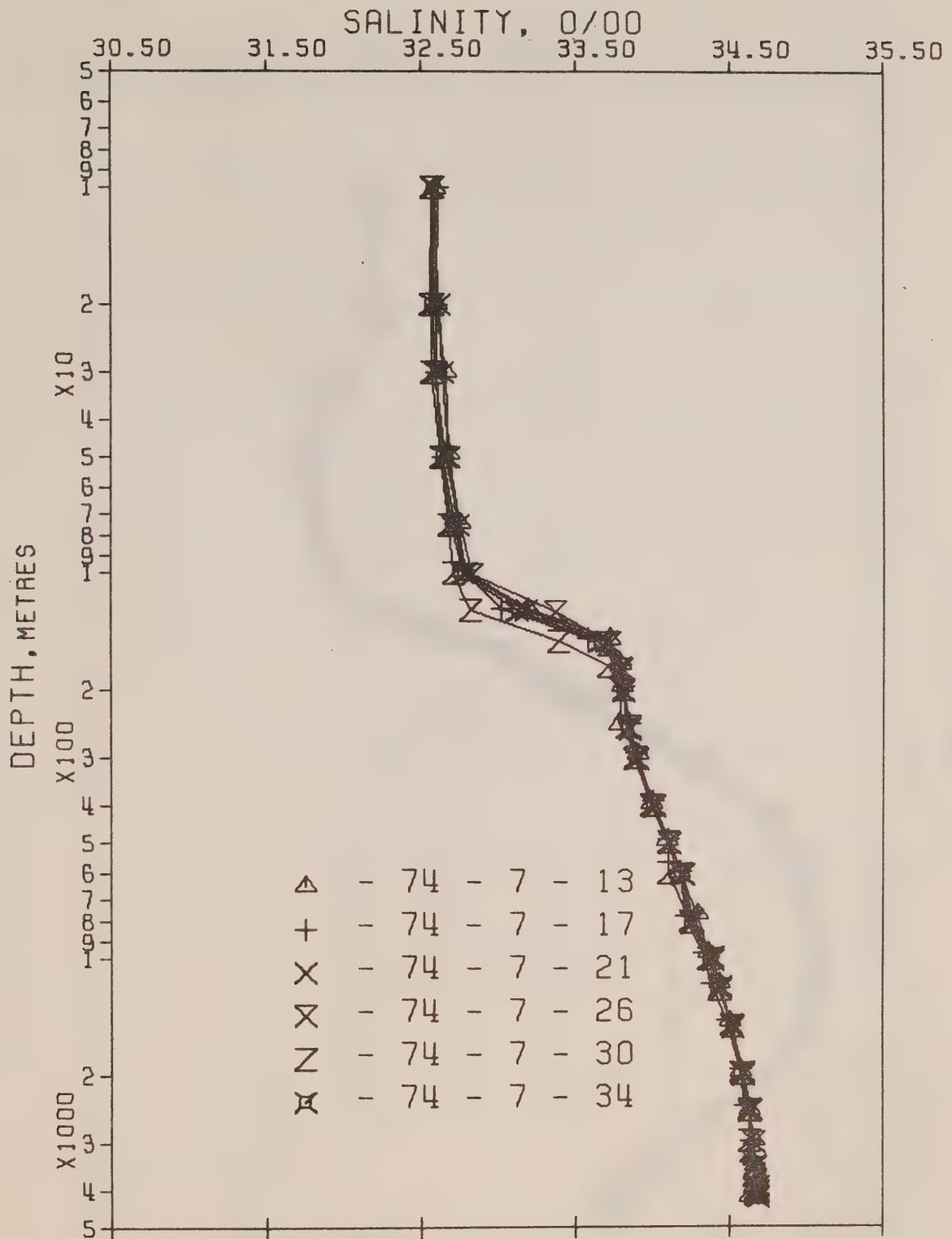


Figure 3 Composite plot of salinity vs \log_{10} depth.
P-74-7.

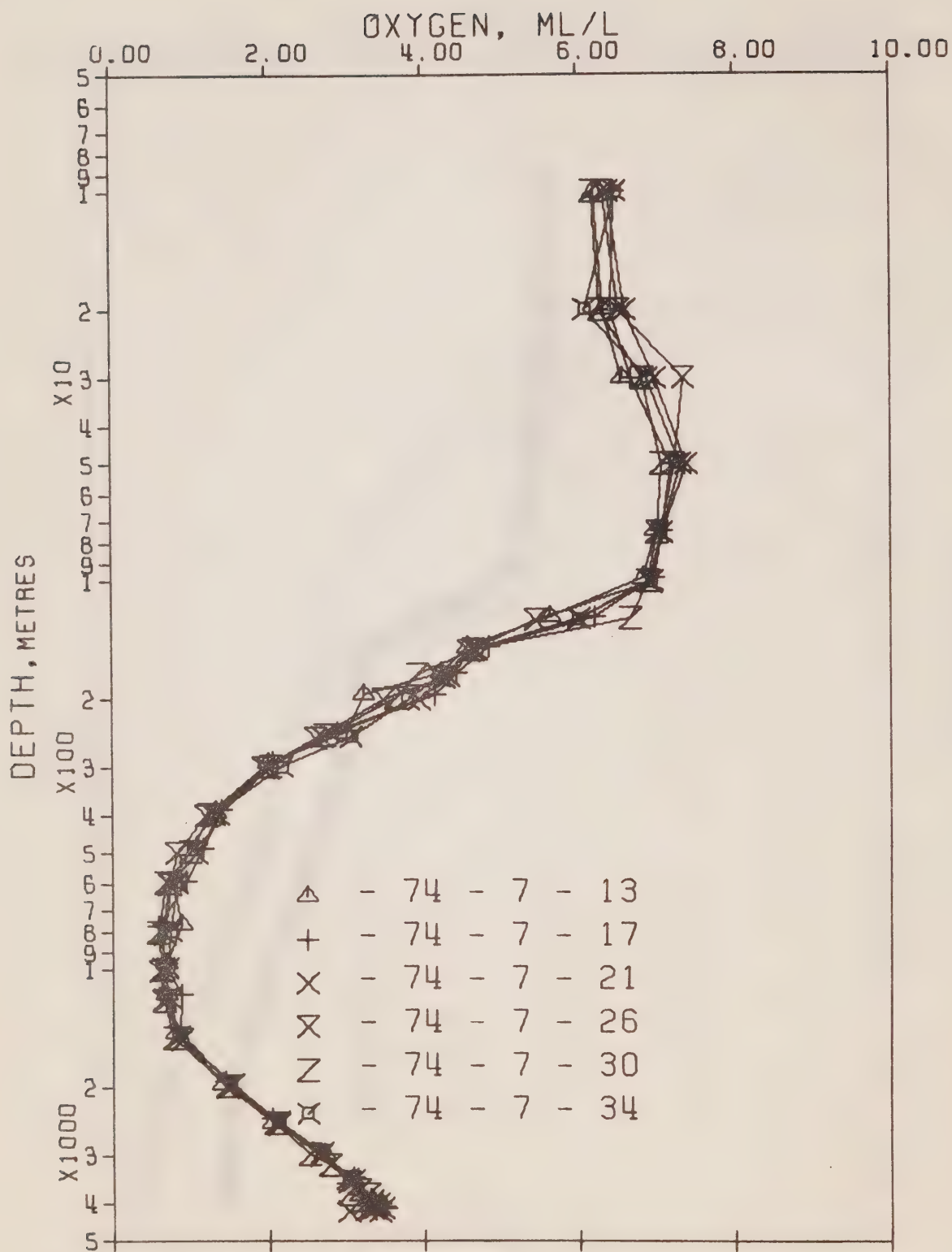
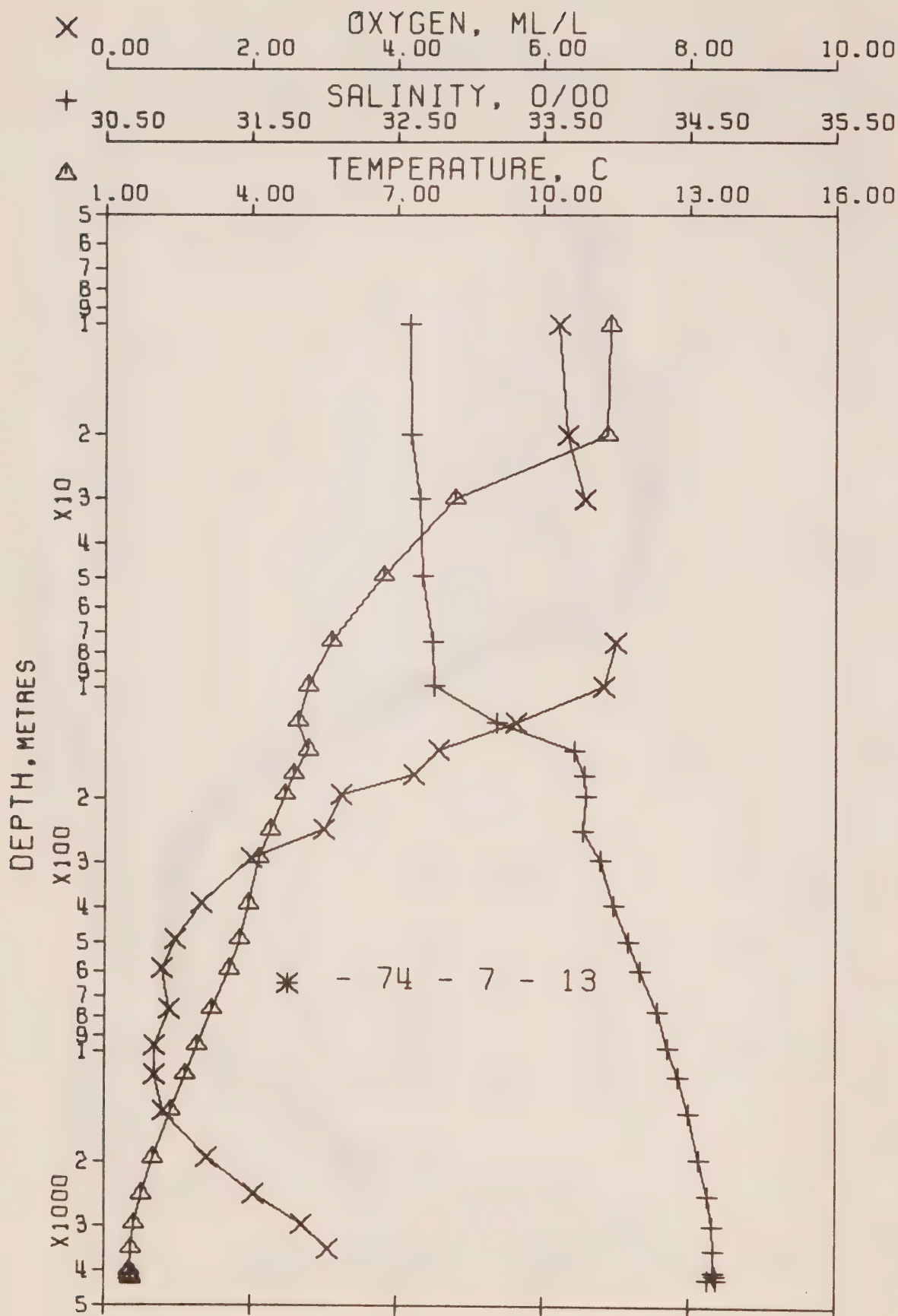


Figure 4 Composite plot of oxygen vs \log_{10} depth.
P-74-7.

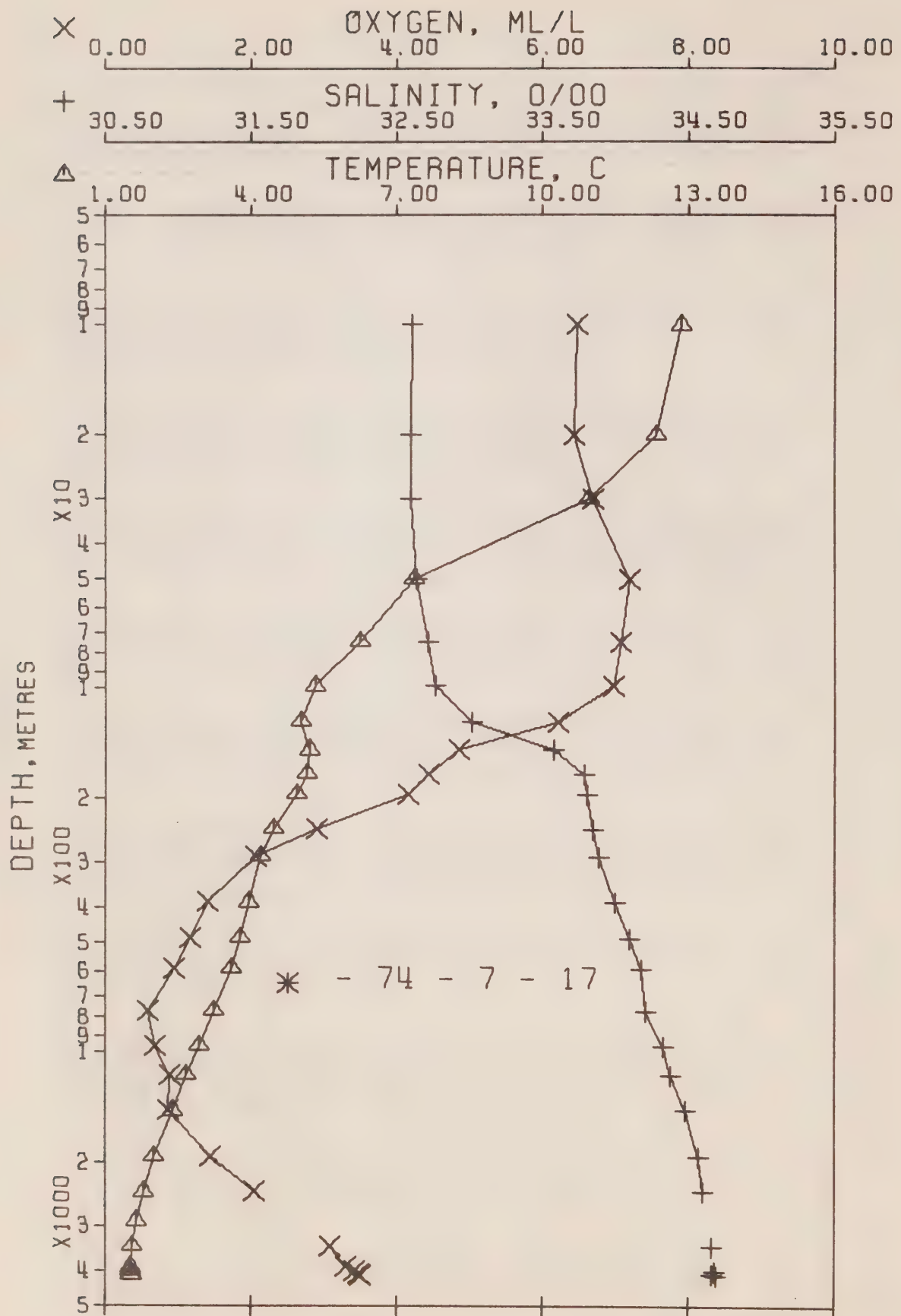


OFFSHORE OCEANOGRAPHY GROUP
 POSITION 49-53.0 N, 145- 1.0 W GMT 19.7
 HYDROGRAPHIC CAST DATA

REFERENCE NO. 74- 7- 13

DATE 5/ 8/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	11.44	32.591*	0	24.847	311.5	11.44	311.3	0.0	0.0	6.14	1492.
10	11.37	32.594	10	24.862	310.3	11.37	309.9	0.31	0.02	6.22	1492.
20	11.33	32.597	20	24.871	309.6	11.33	309.0	0.63	0.06	6.34	1492.
30	8.19	32.659	30	25.434	256.1	8.19	255.4	0.91	0.14	6.57	1481.
49	6.74	32.682	49	25.654	235.3	6.74	234.5	1.37	0.32		1475.
74	5.65	32.751	74	25.845	217.3	5.64	216.3	1.94	0.68	6.99	1472.
99	5.16	32.760	98	25.909	211.4	5.15	210.2	2.46	1.14	6.83	1470.
124	4.95	33.187	123	26.270	177.4	4.94	175.9	2.95	1.70	5.64	1470.
148	5.16	33.723	147	26.670	139.8	5.15	137.9	3.33	2.23	4.58	1472.
172	4.87	33.791	171	26.757	131.8	4.86	129.6	3.65	2.75	4.24	1472.
196	4.69	33.801	195	26.785	129.3	4.68	127.0	3.97	3.35	3.24	1471.
246	4.38	33.778	244	26.800	128.1	4.35	125.4	4.61	4.79	3.00	1471.
294	4.14	33.897	292	26.920	117.1	4.12	114.1	5.20	6.42	1.99	1471.
393	3.93	33.995	390	27.019	108.4	3.90	104.6	6.30	10.29	1.31	1472.
494	3.76	34.093	490	27.114	100.1	3.72	95.6	7.36	15.05	0.96	1473.
597	3.56	34.172	592	27.197	92.9	3.52	87.6	8.35	20.57	0.79	1474.
770	3.20	34.287	763	27.323	81.7	3.15	75.6	9.85	31.03	0.88	1475.
967	2.90	34.356	958	27.405	74.6	2.83	67.8	11.39	44.63	0.67	1477.
1167	2.66	34.427	1155	27.483	68.0	2.58	60.3	12.81	60.07	0.69	1480.
1469	2.35	34.502	1453	27.569	60.5	2.25	52.1	14.74	86.00	0.79	1483.
1980	1.98	34.574	1956	27.657	53.1	1.84	43.5	17.61	136.55	1.40	1490.
2498	1.75	34.628	2465	27.718	48.3	1.57	37.5	20.22	196.15	2.04	1498.
3020	1.60	34.659	2976	27.754	45.7	1.38	33.8	22.65	264.61	2.70	1506.
3545	1.54	34.672	3489	27.768	45.3	1.26	32.1	25.03	344.07	3.05	1515.
4068	1.52	34.670	3999	27.768	46.5	1.19	31.7	27.44	437.91		1524.
4172	1.52	34.681	4101	27.777	46.1	1.13	30.8	27.93	458.12		1526.
4266	1.53	34.628	4192	27.734	50.2	1.13	34.8	28.41	479.89		1527.
4277	1.53	34.686	4203	27.780	46.2	1.17	30.4	28.47	482.26		1528.

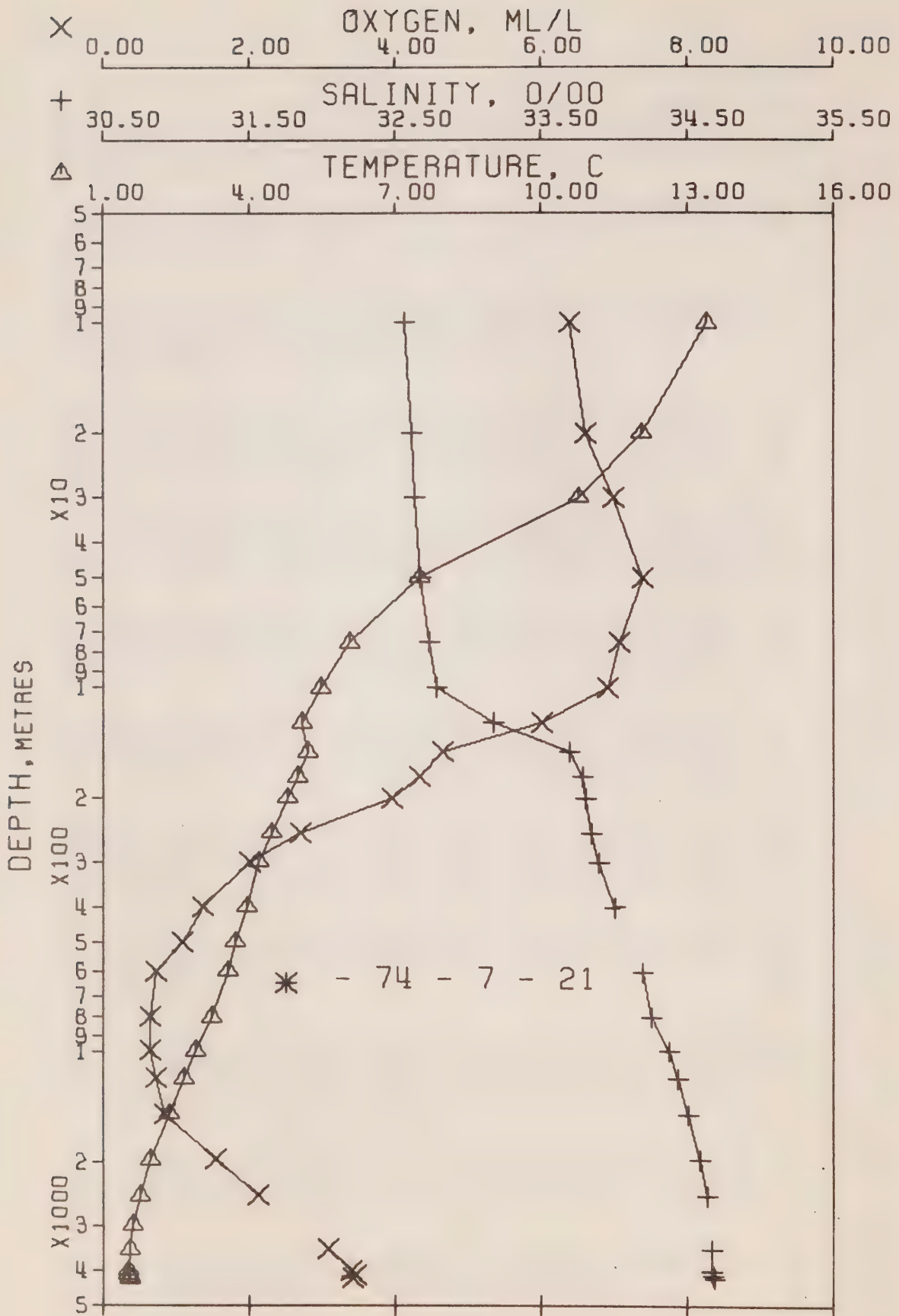


OFFSHORE OCEANOGRAPHY GROUP
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 HYDROGRAPHIC CAST DATA

REFERENCE NO. 74- 7- 17

DATE 11/ 8/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.03	32.609	0	24.560	338.8	13.03	338.6	0.0	0.0	6.40	1498.
10	12.84	32.608	10	24.597	335.6	12.84	335.1	0.34	0.02	6.48	1498.
20	12.34	32.605	20	24.691	326.8	12.34	326.1	0.67	0.07	6.43	1496.
30	10.97	32.605	30	24.942	303.1	10.97	302.2	0.99	0.15	6.70	1491.
50	7.36	32.640	50	25.538	246.5	7.36	245.5	1.54	0.37	7.19	1478.
74	6.26	32.717	74	25.743	227.1	6.25	225.9	2.10	0.73	7.08	1474.
99	5.32	32.771	98	25.899	212.4	5.31	211.1	2.64	1.20	6.98	1471.
124	5.02	33.022	123	26.132	190.6	5.01	189.0	3.15	1.73	6.22	1470.
148	5.19	33.577	147	26.551	151.1	5.18	149.1	3.56	2.35	4.86	1472.
172	5.14	33.786	171	26.722	135.1	5.13	133.0	3.90	2.91	4.43	1473.
196	4.93	33.810	195	26.765	131.2	4.91	128.8	4.22	3.51	4.16	1472.
245	4.45	33.849	243	26.849	123.5	4.43	120.8	4.84	4.89	2.80	1471.
292	4.17	33.888	290	26.910	118.1	4.15	115.0	5.41	6.46	2.05	1471.
390	3.95	34.005	387	27.025	107.9	3.92	104.1	6.51	10.30	1.39	1472.
490	3.76	34.098	486	27.118	99.7	3.73	95.2	7.55	14.94	1.15	1473.
594	3.57	34.176	589	27.199	92.6	3.53	87.5	8.54	20.45	0.94	1474.
776	3.22	34.212	769	27.261	87.5	3.17	81.5	10.18	31.89	0.57	1475.
969	2.91	34.332	960	27.385	76.5	2.84	69.7	11.76	45.95	0.69	1477.
1165	2.66	34.382	1153	27.447	71.2	2.58	63.7	13.20	61.61	0.89	1479.
1459	2.38	34.482	1443	27.551	62.3	2.28	53.8	15.16	87.78	0.85	1483.
1955	2.00	34.570	1931	27.652	53.5	1.87	44.0	17.99	136.99	1.45	1490.
2454	1.78	34.600	2422	27.693	50.5	1.61	39.9	20.57	195.09	2.04	1497.
2959	1.62	34.630*	2916	27.729	47.7	1.40	36.2	23.04	263.24		1505.
3466	1.55	34.661	3412	27.759	46.0	1.24	33.0	25.41	340.95	3.09	1514.
3975	1.52	34.691*	3909	27.785	44.9	1.20	30.2	27.70	427.69	3.30	1522.
4077	1.52	34.685	4008	27.780	45.6	1.19	30.6	28.16	446.50	3.42	1524.
4169	1.53	34.665	4098	27.764	47.3	1.19	32.1	28.61	465.34	3.49	1525.
4178	1.52	34.687	4107	27.782	45.7	1.18	30.4	28.65	467.17	3.51	1525.

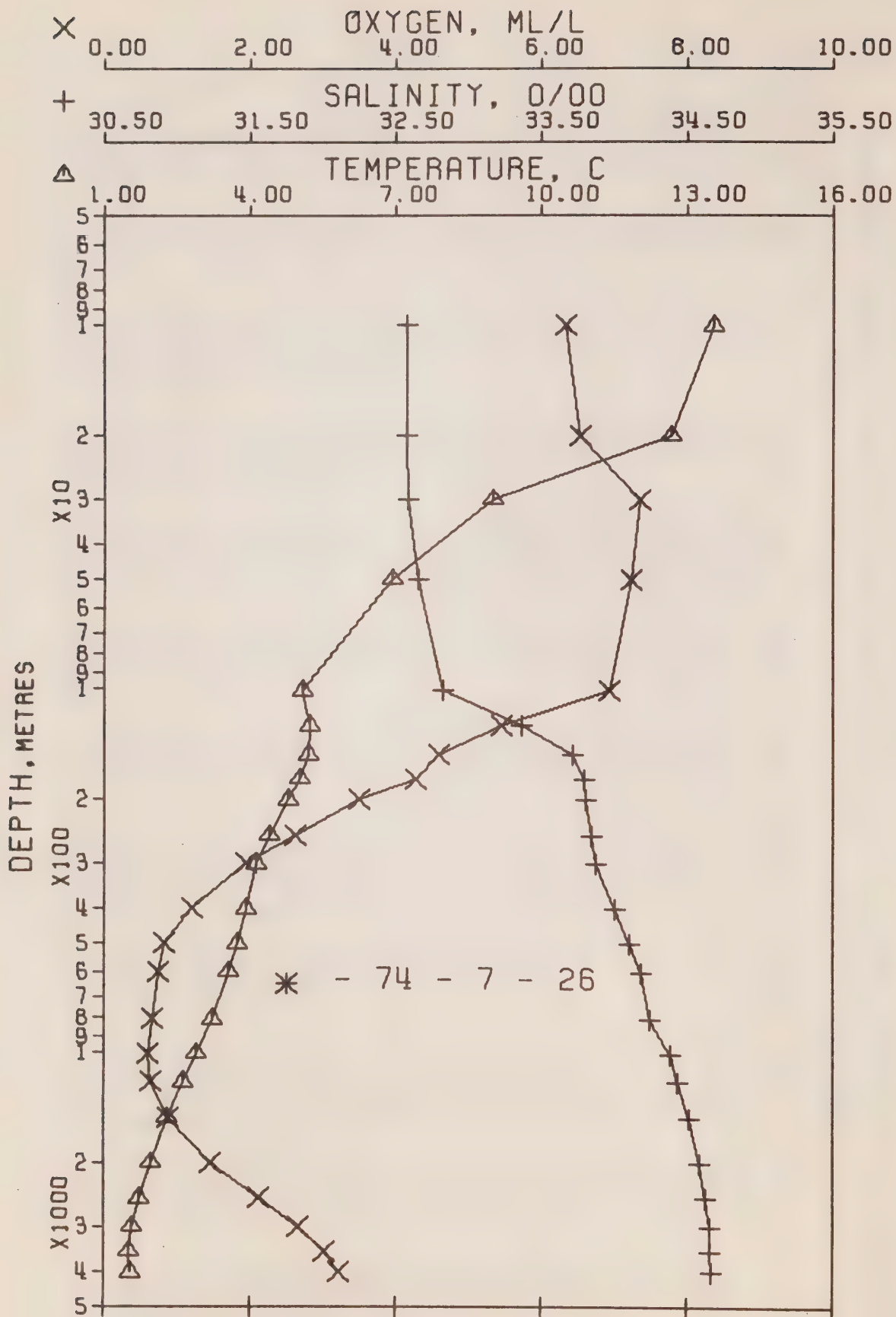


OFFSHORE OCEANOGRAPHY GROUP
 POSITION 50- 0.0 N, 145-10.0 W GMT 21.9
 HYDROGRAPHIC CAST DATA

REFERENCE NO. 74- 7- 21

DATE 13/ 8/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	JOY	SOUND
0	13.66	32.558	0	24.403	353.8	13.66	353.6	0.0	0.0	6.31	1500.
10	13.38	32.570	10	24.461	348.5	13.38	348.0	0.35	0.02	6.33	1499.
20	12.07	32.619	20	24.752	321.0	12.07	320.2	0.69	0.07	6.62	1495.
30	10.79	32.636	30	24.997	297.8	10.79	296.9	1.00	0.15	7.01	1491.
50	7.52	32.685	50	25.551	245.3	7.52	244.3	1.55	0.37	7.39	1479.
75	6.06	32.743	75	25.789	222.8	6.05	221.6	2.13	0.74	7.08	1474.
101	5.47	32.791	100	25.897	212.6	5.46	211.3	2.67	1.24	6.92	1472.
126	5.07	33.178	125	26.249	179.4	5.06	177.8	3.17	1.81	6.02	1471.
151	5.20	33.696	150	26.644	142.3	5.13	140.4	3.57	2.38	4.66	1473.
176	5.00	33.792	175	26.743	133.1	4.99	131.0	3.92	2.95	4.34	1472.
201	4.79	33.813	200	26.783	129.5	4.77	127.1	4.25	3.58	3.95	1472.
252	4.44	33.854	250	26.854	123.1	4.42	120.4	4.38	5.05	2.70	1471.
302	4.19	33.899	300	26.916	117.0	4.17	114.4	5.49	5.77	1.99	1471.
402	3.94	34.011	399	27.031	107.4	3.91	103.5	6.61	10.80	1.35	1472.
503	3.71	34.115*	499	27.137	98.0	3.67	93.4	7.55	15.57	1.08	1473.
604	3.56	34.137	599	27.217	91.1	3.52	85.7	8.60	20.94	0.72	1474.
807	3.21	34.258	800	27.299	84.2	3.15	77.9	10.37	33.76	0.63	1476.
1000	2.89	34.379	990	27.424	73.0	2.82	66.0	11.83	47.64	0.64	1478.
1134	2.66	34.442	1132	27.495	67.0	2.53	59.2	13.24	62.78	0.72	1480.
1432	2.36	34.511	1476	27.575	60.1	2.26	51.4	15.12	88.61	0.84	1484.
1999	1.95	34.588	1975	27.670	51.8	1.31	42.2	17.94	138.61	1.54	1491.
2517	1.74	34.637	2483	27.725	47.5	1.56	36.7	20.48	197.31	2.13	1493.
3038	1.59	34.663*	2994	27.758	45.2	1.30	33.4	22.89	265.35		1507.
3558	1.53	34.673	3502	27.770	45.2	1.25	31.9	25.23	343.98	3.03	1515.
4072	1.51	34.673	4003	27.771	46.2	1.18	31.5	27.59	435.84	3.39	1524.
4173	1.52	34.685	4102	27.780	45.8	1.18	30.5	28.05	455.49	3.47	1526.
4265	1.53	34.690*	4191	27.784	45.8	1.18	30.1	28.47	473.49		1527.
4274	1.53	34.691	4200	27.784	45.9	1.18	30.0	28.51	475.33	3.43	1528.



DATE 26/ 8/74

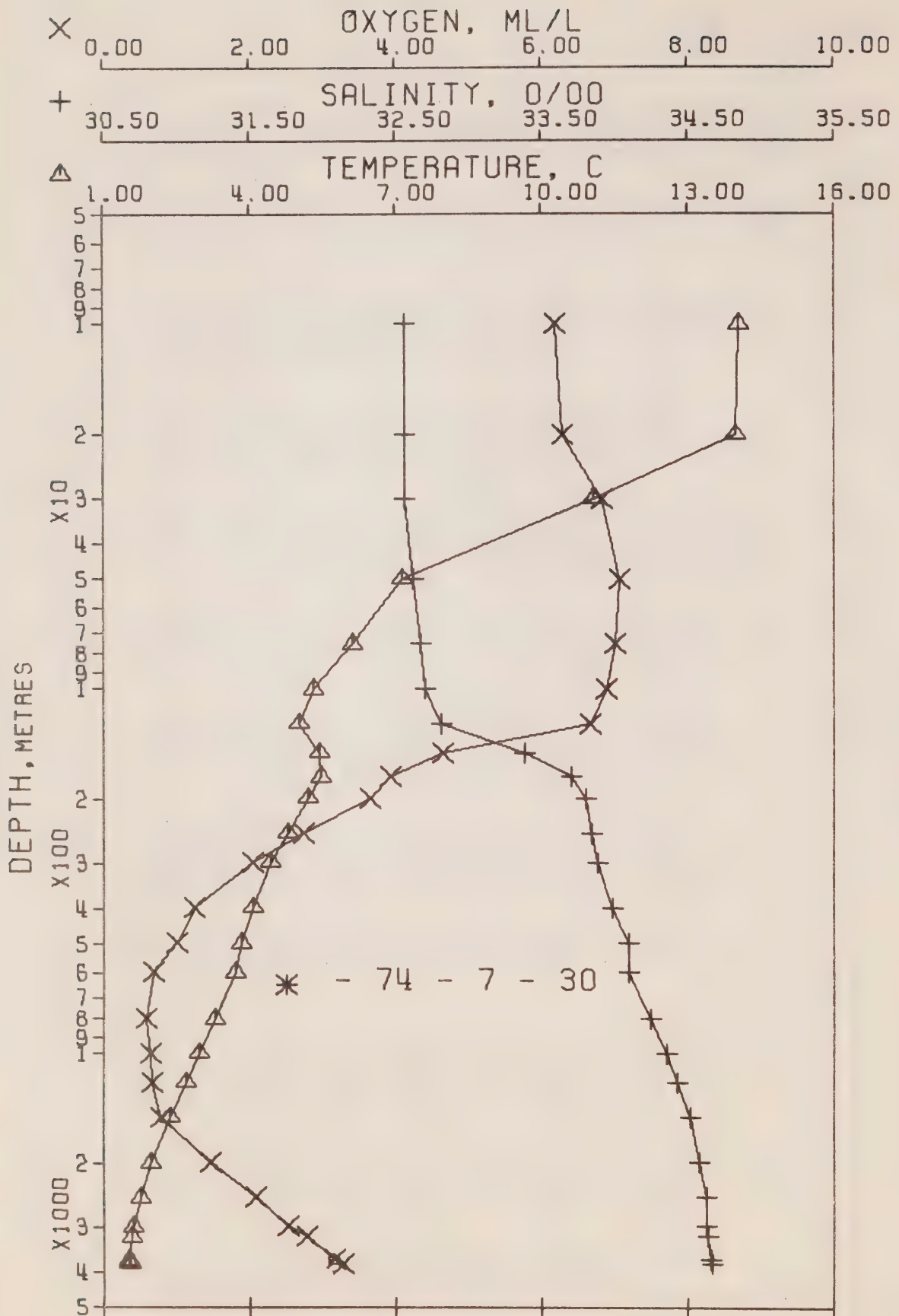
REFERENCE NO. 74- 7- 26

OFFSHORE OCEANOGRAPHY GROUP

POSITION 49-50.0 N, 145- 3.0 W GMT 19.7

HYDROGRAPHIC CAST DATA

PRFSS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.71	32.577	0	24.400	354.1	13.71	353.9	0.0	0.0	6.27	1500.
10	13.53	32.578	10	24.437	350.8	13.53	350.3	0.35	0.02	6.33	1500.
20	12.66	32.579	20	24.609	334.6	12.66	333.8	0.70	0.07	6.54	1497.
30	9.00	32.594	30	25.260	272.7	9.00	271.9	1.01	0.15	7.36	1484.
50	6.93	32.665	50	25.616	239.1	6.93	238.1	1.51	0.36	7.25	1477.
102	5.09	32.829	101	25.971	205.6	5.09	204.3	2.64	1.26	6.94	1470.
127	5.22	33.367	126	26.382	166.9	5.21	165.3	3.11	1.80	5.46	1472.
152	5.19	33.722	151	26.666	140.2	5.18	138.3	3.50	2.34	4.60	1473.
177	5.02	33.796	176	26.744	133.1	5.01	130.9	3.84	2.92	4.29	1472.
202	4.77	33.812	201	26.785	129.4	4.75	127.0	4.17	3.56	3.51	1472.
254	4.39	33.851	252	26.857	122.8	4.37	120.1	4.81	5.06	2.52	1471.
304	4.13	33.884	302	26.911	118.1	4.11	115.0	5.42	6.79	1.95	1471.
405	3.91	34.009	402	27.032	107.2	3.83	103.4	6.56	10.89	1.20	1472.
506	3.72	34.108	502	27.130	98.7	3.68	94.1	7.59	15.71	0.82	1473.
606	3.54	34.187	601	27.211	91.6	3.50	86.4	8.54	21.09	0.75	1474.
815	3.21	34.248	803	27.291	85.0	3.15	73.7	10.39	34.49	0.66	1475.
1016	2.88	34.386	1006	27.431	72.5	2.81	65.3	11.96	49.16	0.60	1478.
1216	2.63	34.445	1204	27.500	66.6	2.55	58.6	13.35	64.94	0.65	1480.
1521	2.30	34.516	1504	27.584	59.1	2.20	50.5	15.25	91.49	0.88	1484.
2029	1.96	34.587	2004	27.669	52.1	1.82	42.4	18.05	142.16	1.47	1491.
2541	1.73	34.634	2507	27.724	47.7	1.55	36.9	20.59	201.40	2.12	1499.
3055	1.58	34.663	3010	27.758	45.2	1.35	33.4	22.96	268.91	2.67	1507.
3569	1.52	34.664	3513	27.763	45.6	1.24	32.5	25.29	347.49	3.02	1515.
4084	1.53	34.673	4015	27.770	46.6	1.20	31.6	27.66	440.06	3.21	1524.

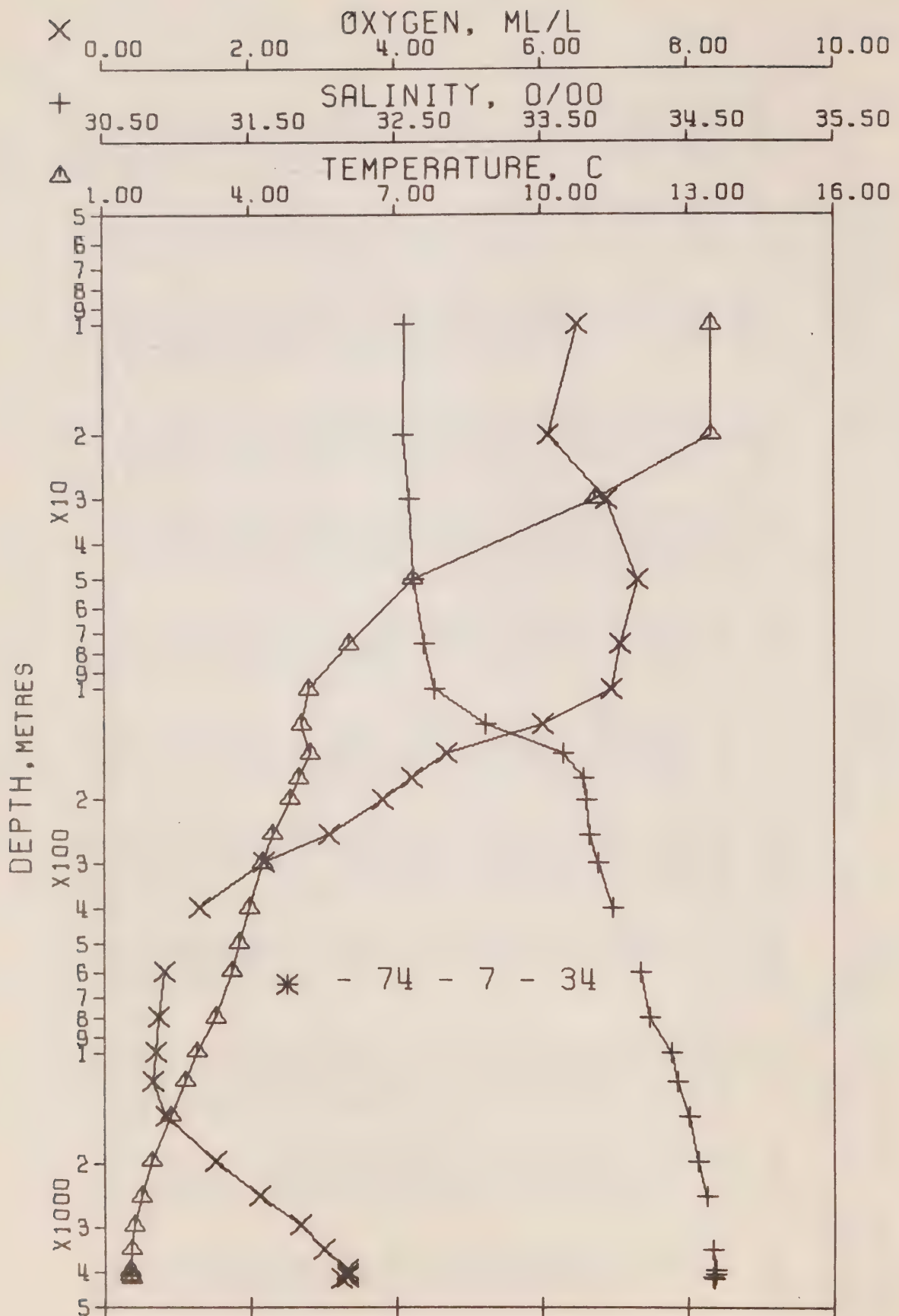


OFFSHORE OCEANOGRAPHY GROUP
 POSITION 50- 3.0 N. 145- 2.0 W GMT 20.5
 HYDROGRAPHIC CAST DATA

REFERENCE NO. 74- 7- 30

DATE 3/ 9/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	14.05	32.576	0	24.329	360.8	14.05	360.6	0.0	0.0	6.22	1501.
10	14.05	32.575	10	24.329	361.1	14.05	360.6	0.36	0.02	6.20	1502.
20	14.00	32.575	20	24.339	360.4	14.00	359.6	0.73	0.08	6.29	1502.
30	11.09	32.575	30	24.897	307.3	11.09	306.4	1.07	0.16	6.83	1492.
50	7.15	32.628	50	25.557	244.6	7.15	243.7	1.61	0.38	7.08	1477.
75	6.14	32.679	75	25.728	228.5	6.13	227.4	2.19	0.76	7.01	1474.
101	5.32	32.714	100	25.854	216.7	5.31	215.4	2.75	1.26	6.90	1471.
125	5.01	32.820	124	25.973	205.6	5.00	204.1	3.27	1.85	6.69	1470.
150	5.45	33.389	149	26.372	158.1	5.44	166.2	3.74	2.51	4.67	1473.
175	5.46	33.713	174	26.627	144.3	5.45	141.9	4.13	3.16	3.93	1474.
200	5.20	33.811	199	26.735	134.3	5.18	131.7	4.48	3.83	3.65	1474.
250	4.77	33.852	248	26.816	126.8	4.75	123.9	5.12	5.29	2.74	1473.
300	4.43	33.894	298	26.887	120.5	4.41	117.2	5.74	7.04	2.04	1472.
400	4.07	33.990	397	27.001	110.3	4.04	106.4	6.89	11.15	1.24	1472.
500	3.83	34.096	496	27.110	100.6	3.79	96.0	7.94	15.95	0.99	1473.
601	3.71	34.096	596	27.122	100.1	3.67	94.8	8.95	21.64	0.67	1474.
807	3.28	34.254	800	27.289	85.3	3.22	78.9	10.88	35.43	0.58	1476.
1006	2.94	34.363	996	27.407	74.8	2.87	67.6	12.46	50.00	0.64	1478.
1206	2.67	34.428	1194	27.483	68.2	2.59	60.3	13.88	66.12	0.67	1480.
1503	2.34	34.518	1492	27.583	59.4	2.24	50.7	15.30	92.63	0.79	1484.
2016	1.96	34.576	1991	27.660	52.9	1.82	43.2	18.61	143.23	1.47	1491.
2526	1.75	34.632	2492	27.721	48.0	1.57	37.2	21.17	202.24	2.08	1499.
3037	1.60	34.626	2993	27.727	48.0	1.37	36.2	23.62	271.90	2.53	1507.
3245	1.58	34.645	3196	27.744	47.0	1.33	34.6	24.60	303.46	2.79	1510.
3753	1.52	34.654	3692	27.763	46.1	1.22	32.4	26.95	387.70	3.17	1513.
3844	1.53	34.674*	3731	27.771	45.9	1.22	31.6	27.39	404.02		1520.
3854	1.52	34.675	3791	27.772	45.7	1.21	31.5	27.43	405.86	3.27	1520.



DATE 10/ 9/74

REFERENCE NO. 74- 7- 34

OFFSHORE OCEANOGRAPHY GROUP

POSITION 49-59.0 N, 145- 2.0 W GMT 19.9

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.51	32.570	0	24.435	350.8	13.51	350.6	0.0	0.0	6.14	1500.
10	13.49	32.573	10	24.441	350.4	13.49	349.9	0.35	0.02	6.50	1500.
20	13.47	32.565	20	24.439	350.8	13.47	350.1	0.71	0.07	6.11	1500.
30	11.10	32.604	30	24.918	305.3	11.10	304.5	1.04	0.16	6.91	1492.
50	7.35	32.633	50	25.533	246.9	7.35	245.9	1.59	0.38	7.31	1478.
75	6.05	32.699	75	25.755	225.9	6.04	224.8	2.17	0.76	7.07	1473.
101	5.20	32.771	100	25.913	211.1	5.19	209.8	2.72	1.25	6.95	1471.
126	5.04	33.124	125	26.210	183.1	5.03	181.6	3.22	1.83	6.01	1471.
151	5.23	33.652	150	26.606	145.9	5.22	144.0	3.63	2.41	4.71	1473.
176	4.99	33.790	175	26.743	133.2	4.98	131.0	3.93	2.99	4.22	1472.
201	4.81	33.808	200	26.777	130.1	4.79	127.7	4.31	3.62	3.82	1472.
252	4.45	33.834	250	26.837	124.8	4.43	122.0	4.95	5.11	3.03	1471.
301	4.23	33.886	299	26.902	118.9	4.21	115.9	5.55	6.80	2.13	1471.
401	3.98	33.991	398	27.011	109.2	3.95	105.4	6.99	10.83	1.29	1472.
500	3.77	34.093*	496	27.113	100.2	3.73	95.7	7.73	15.63		1473.
598	3.62	34.176	593	27.194	93.2	3.58	87.9	8.57	20.92	0.82	1474.
800	3.28	34.245	793	27.282	85.9	3.22	79.5	10.48	33.84	9.74	1476.
993	2.90	34.387	988	27.430	72.5	2.83	65.4	12.04	48.07	0.71	1473.
1196	2.69	34.426	1184	27.482	68.1	2.58	60.4	13.42	63.60	0.66	1480.
1495	2.34	34.511	1479	27.577	59.9	2.24	51.2	15.34	89.78	0.84	1484.
1996	1.97	34.570	1972	27.654	53.4	1.83	43.7	18.14	139.78	1.51	1491.
2500	1.75	34.626	2467	27.716	48.4	1.57	37.6	20.69	198.20	2.13	1493.
3007	1.61	34.655*	2963	27.750	46.0	1.39	34.2	23.06	264.90	2.67	1505.
3512	1.54	34.671	3457	27.768	45.3	1.27	32.2	25.36	341.36	3.01	1514.
4016	1.52	34.687	3949	27.782	45.2	1.19	30.5	27.64	428.76	3.32	1523.
4117	1.52	34.690	4047	27.784	45.3	1.18	30.2	28.10	447.59	3.32	1525.
4207	1.53	34.673	4135	27.770	46.9	1.18	31.5	28.52	465.56	3.33	1526.
4217	1.53	34.682	4145	27.777	46.3	1.13	30.7	28.57	467.52	3.25	1527.

RESULTS OF STP OBSERVATIONS

(P-74-7)

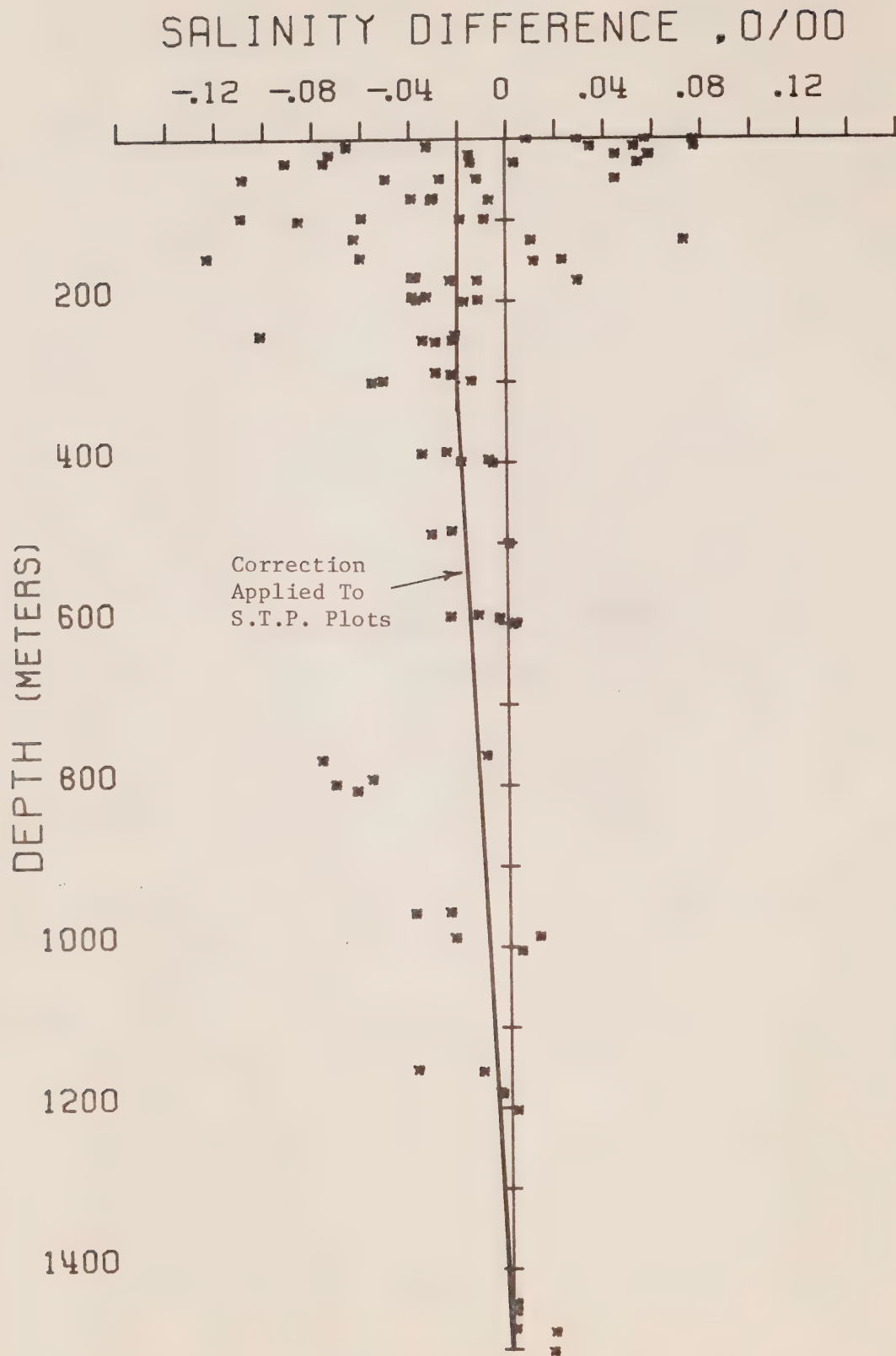


Figure 5. Salinity difference between hydro data and STP.
P-74-7

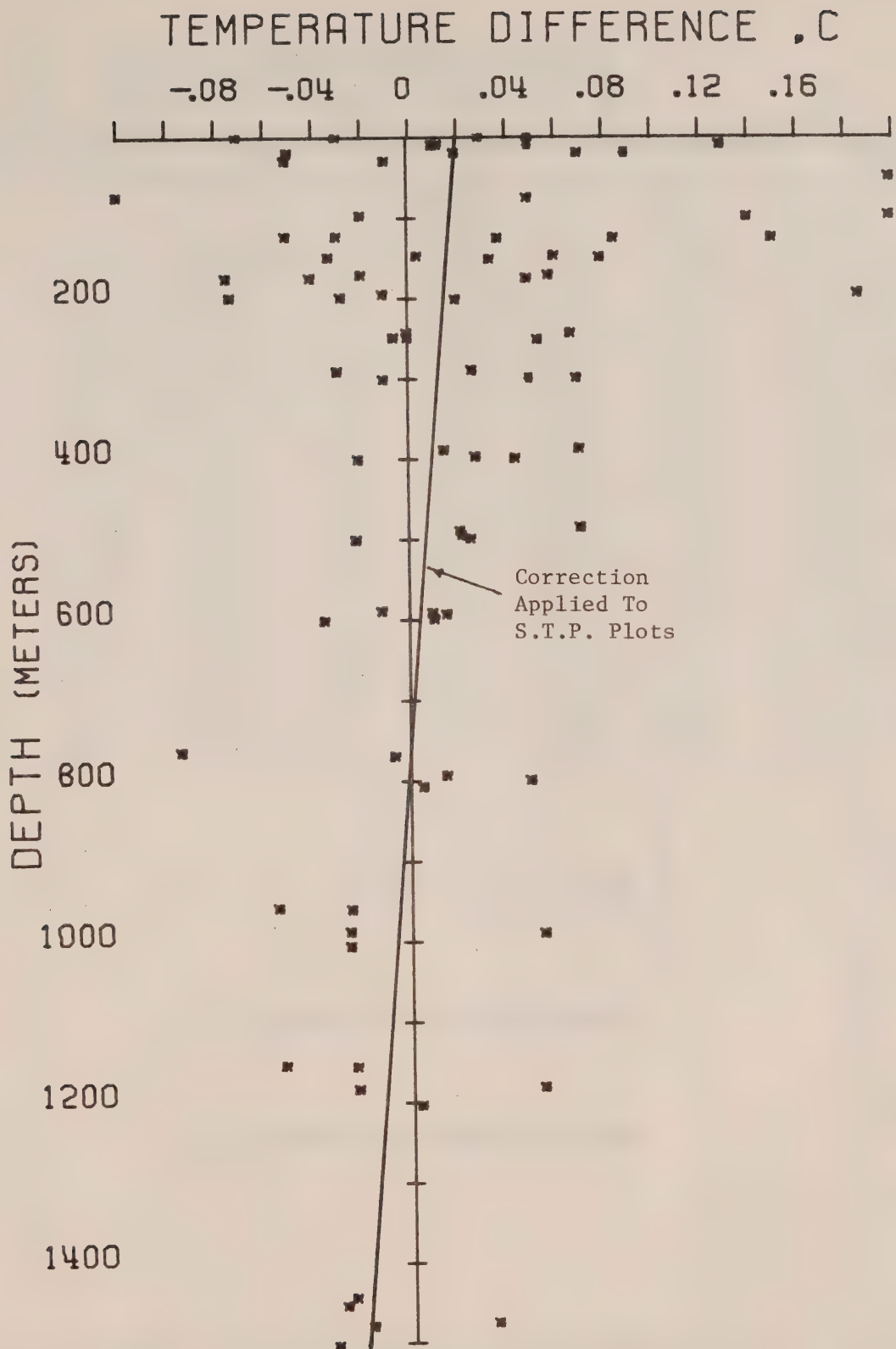
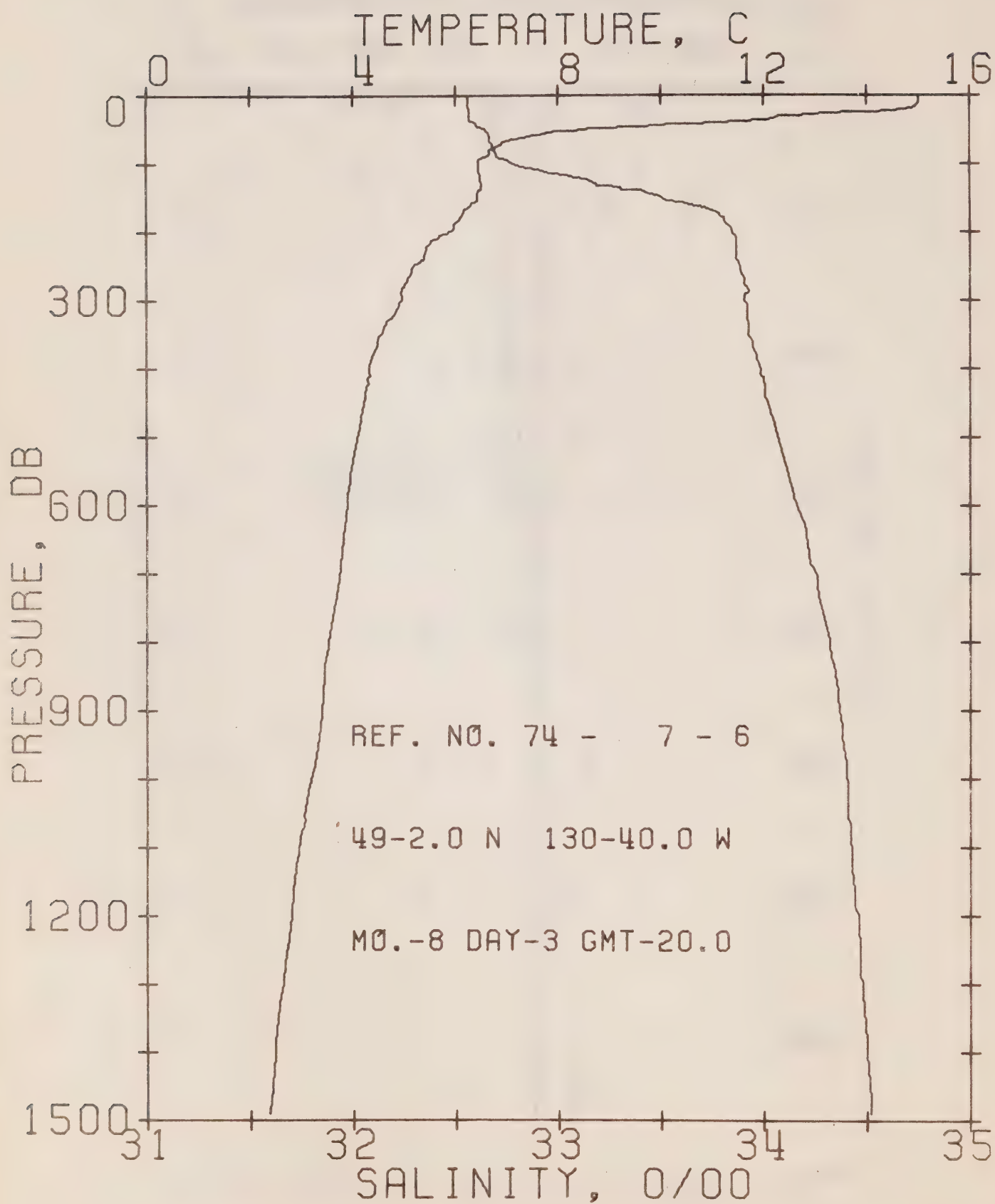


Figure 6. Temperature difference between hydro data and STP.
P-74-7



OFFSHORE OCEANOGRAPHY GROUP

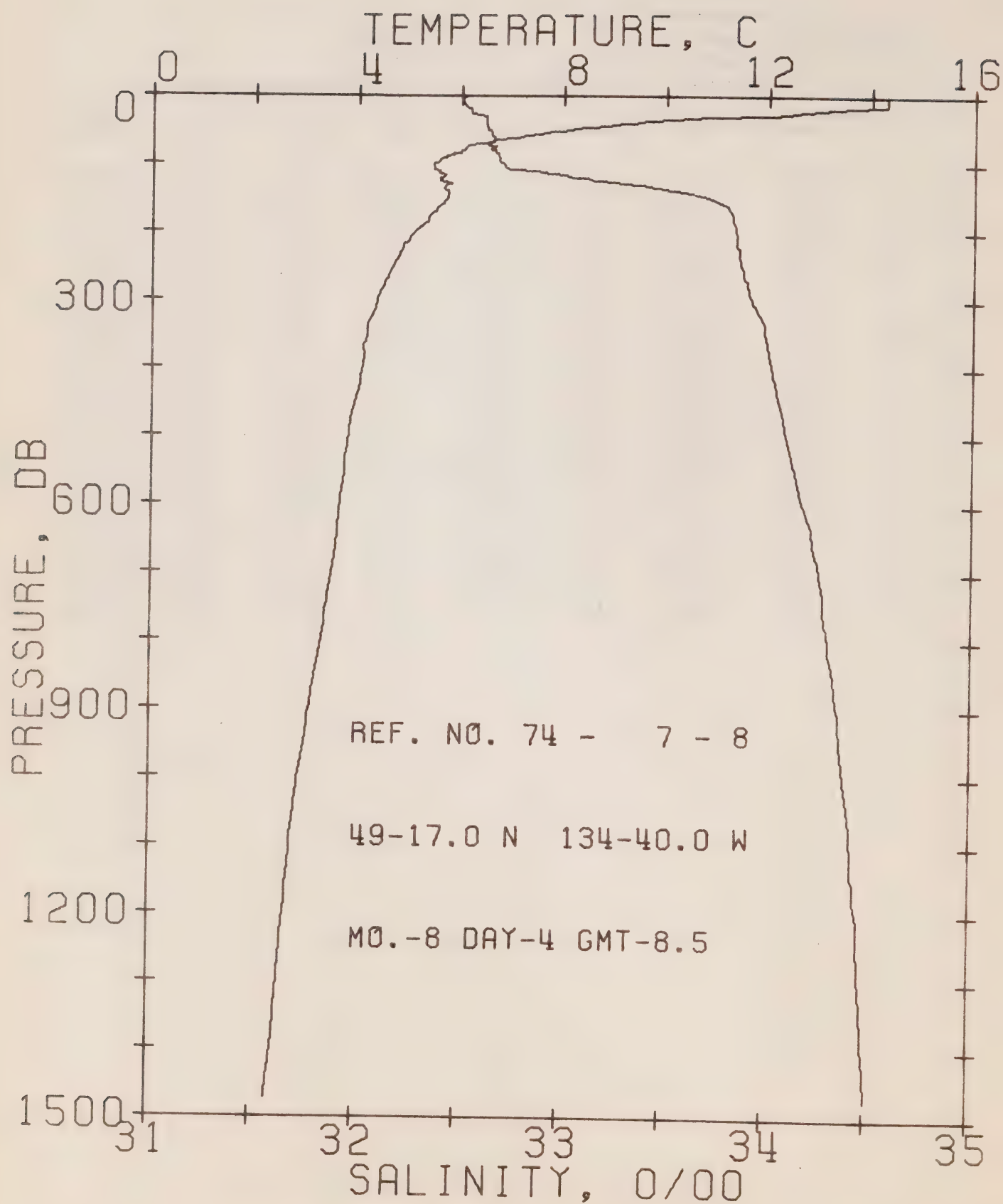
REFERENCE NO. 74- 7- 6

DATE 3/ 8/74

POSITION 49- 2.0N, 130-40.0W GMT 20.0

RESULTS OF STP CAST 241 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	15.01	32.56	0	24.11	381.1	0.0	0.0	1504.
10	15.00	32.56	10	24.12	381.4	0.38	0.02	1505.
20	14.61	32.57	20	24.21	372.9	0.76	0.08	1503.
30	12.29	32.57	30	24.67	328.7	1.11	0.17	1496.
50	8.47	32.65	50	25.39	261.1	1.71	0.41	1482.
75	6.80	32.68	75	25.64	236.6	2.32	0.80	1476.
100	6.46	32.78	99	25.77	225.1	2.90	1.31	1476.
125	6.51	33.16	124	26.06	197.8	3.43	1.92	1477.
150	6.43	33.50	149	26.34	171.4	3.89	2.56	1477.
175	6.10	33.79	174	26.61	146.3	4.29	3.21	1477.
200	5.87	33.85	199	26.68	139.4	4.64	3.89	1476.
225	5.42	33.87	223	26.76	132.7	4.98	4.62	1475.
250	5.17	33.89	248	26.80	128.9	5.31	5.42	1474.
300	4.94	33.91	298	26.84	124.9	5.94	7.18	1474.
400	4.31	33.99	397	26.97	113.1	7.13	11.42	1473.
500	4.08	34.07	496	27.06	105.4	8.22	16.44	1474.
600	3.88	34.16	595	27.16	96.9	9.24	22.10	1475.
800	3.52	34.32	793	27.32	82.9	11.03	34.87	1477.
1000	3.18	34.40	991	27.42	74.3	12.60	49.25	1479.
1200	2.79	34.46	1188	27.50	67.1	14.02	65.12	1481.



OFFSHORE OCEANOGRAPHY GROUP

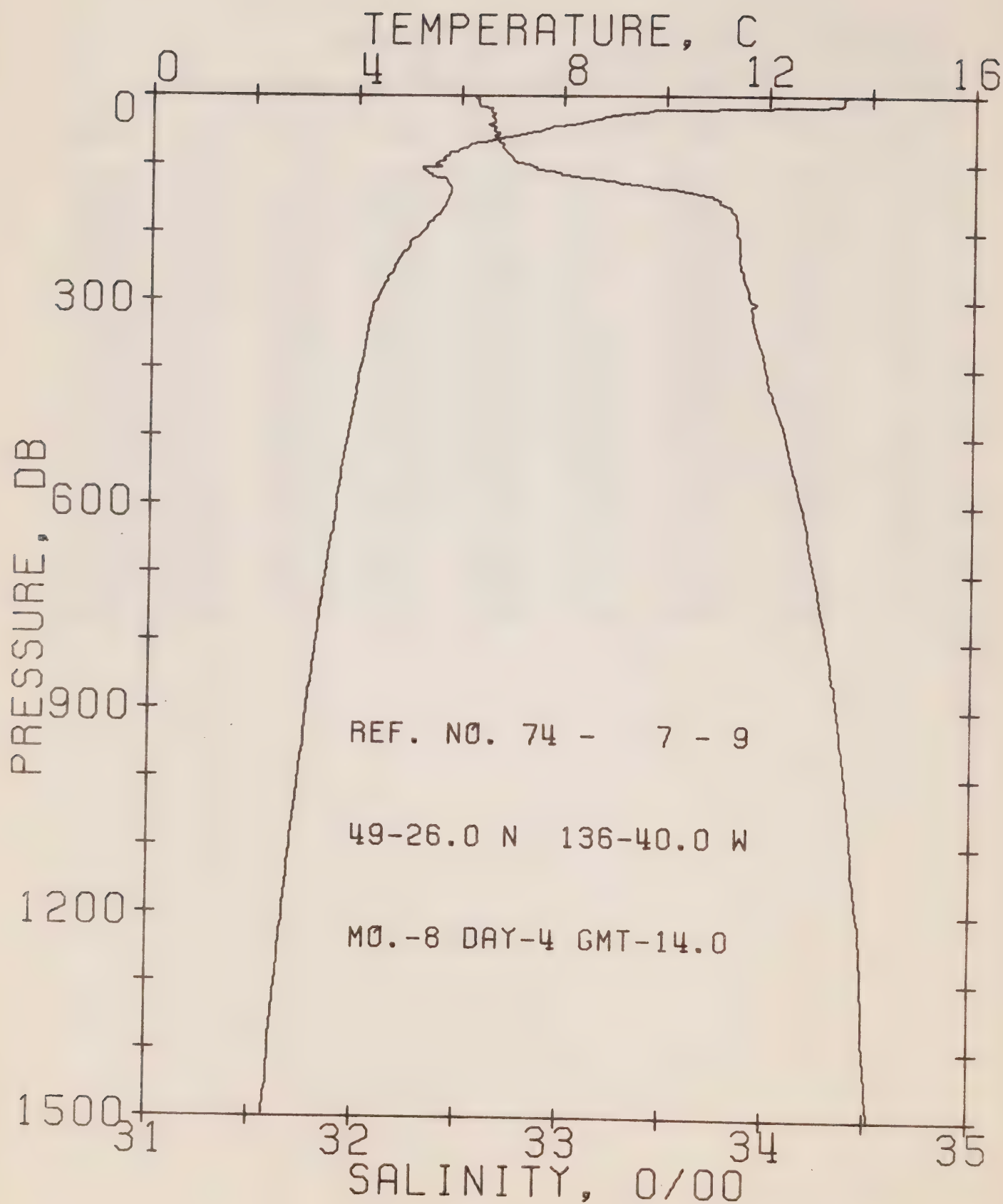
REFERENCE NO. 74- 7- 8

DATE 4/ 8/74

POSITION 49-17.0N, 134-40.0W GMT 8.F

RESULTS OF STD CAST 194 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.29	32.52	0	24.24	369.5	0.0	0.0	1502.
10	14.28	32.51	10	24.23	370.8	0.37	0.02	1502.
20	12.89	32.55	20	24.54	341.1	0.73	0.07	1498.
30	10.83	32.62	30	24.98	299.6	1.06	0.16	1491.
50	8.05	32.64	50	25.44	255.9	1.61	0.38	1481.
75	6.09	32.66	75	25.72	229.4	2.21	0.76	1474.
100	5.47	32.71	99	25.83	218.9	2.77	1.26	1472.
125	5.67	33.25	124	26.24	180.8	3.28	1.84	1473.
150	5.76	33.72	149	26.60	147.0	3.69	2.41	1475.
175	5.40	33.83	174	26.72	135.2	4.04	2.99	1474.
200	5.11	33.84	199	26.77	130.8	4.37	3.62	1473.
225	4.85	33.86	223	26.81	126.9	4.69	4.32	1473.
250	4.68	33.87	248	26.84	124.4	5.00	5.08	1472.
300	4.37	33.93	298	26.92	117.3	5.61	6.77	1472.
400	4.09	34.02	397	27.03	108.0	6.72	10.74	1472.
500	3.84	34.10	496	27.11	100.5	7.76	15.51	1473.
600	3.66	34.18	595	27.19	93.2	8.73	20.94	1474.
800	3.32	34.31	793	27.33	81.6	10.47	33.31	1476.
1000	2.89	34.39	990	27.43	72.2	12.01	47.36	1478.
1200	2.63	34.45	1188	27.51	65.7	13.39	62.79	1480.



OFFSHORE OCEANOGRAPHY GROUP

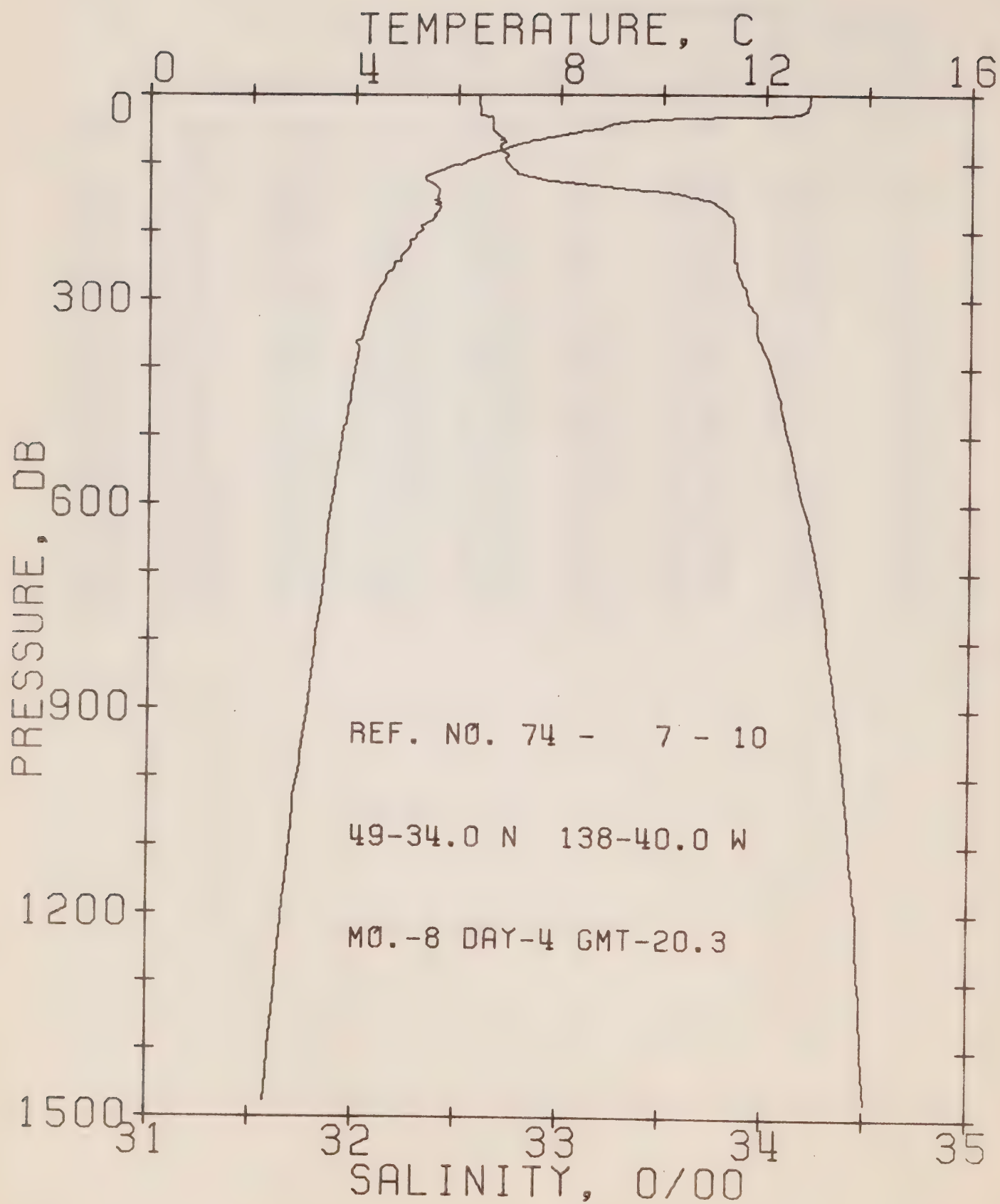
REFERENCE NO. 74- 7- 9

DATE 4/ 8/74

POSITION 49-26.0N, 136-40.0W GMT 14.0

RESULTS OF STP CAST 197 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.59	32.57	0	24.42	352.1	0.0	0.0	1500.
10	13.44	32.58	10	24.46	348.9	0.35	0.02	1499.
20	9.82	32.65	20	25.17	280.9	0.68	0.07	1487.
30	8.84	32.65	30	25.33	266.1	0.95	0.14	1484.
50	7.58	32.66	50	25.52	247.9	1.47	0.35	1479.
75	6.10	32.70	75	25.75	226.5	2.06	0.72	1474.
100	5.51	32.82	99	25.91	211.1	2.60	1.21	1472.
125	5.73	33.25	124	26.23	181.6	3.10	1.77	1474.
150	5.75	33.73	149	26.61	145.8	3.50	2.34	1475.
175	5.53	33.84	174	26.72	135.6	3.85	2.92	1474.
200	5.24	33.95	199	26.76	131.8	4.19	3.55	1474.
225	4.95	33.86	223	26.80	128.0	4.51	4.25	1473.
250	4.72	33.97	248	26.84	125.0	4.83	5.02	1472.
300	4.38	33.92	298	26.91	118.0	5.43	6.72	1472.
400	4.07	33.99	397	27.00	110.1	6.57	10.78	1472.
500	3.83	34.09	496	27.11	101.0	7.63	15.63	1473.
600	3.64	34.17	595	27.19	93.8	8.60	21.07	1474.
800	3.23	34.30	793	27.33	81.5	10.35	33.51	1476.
1000	2.92	34.39	990	27.43	72.5	11.88	47.51	1478.
1200	2.64	34.46	1188	27.51	65.8	13.27	62.99	1480.



OFFSHORE OCEANOGRAPHY GROUP

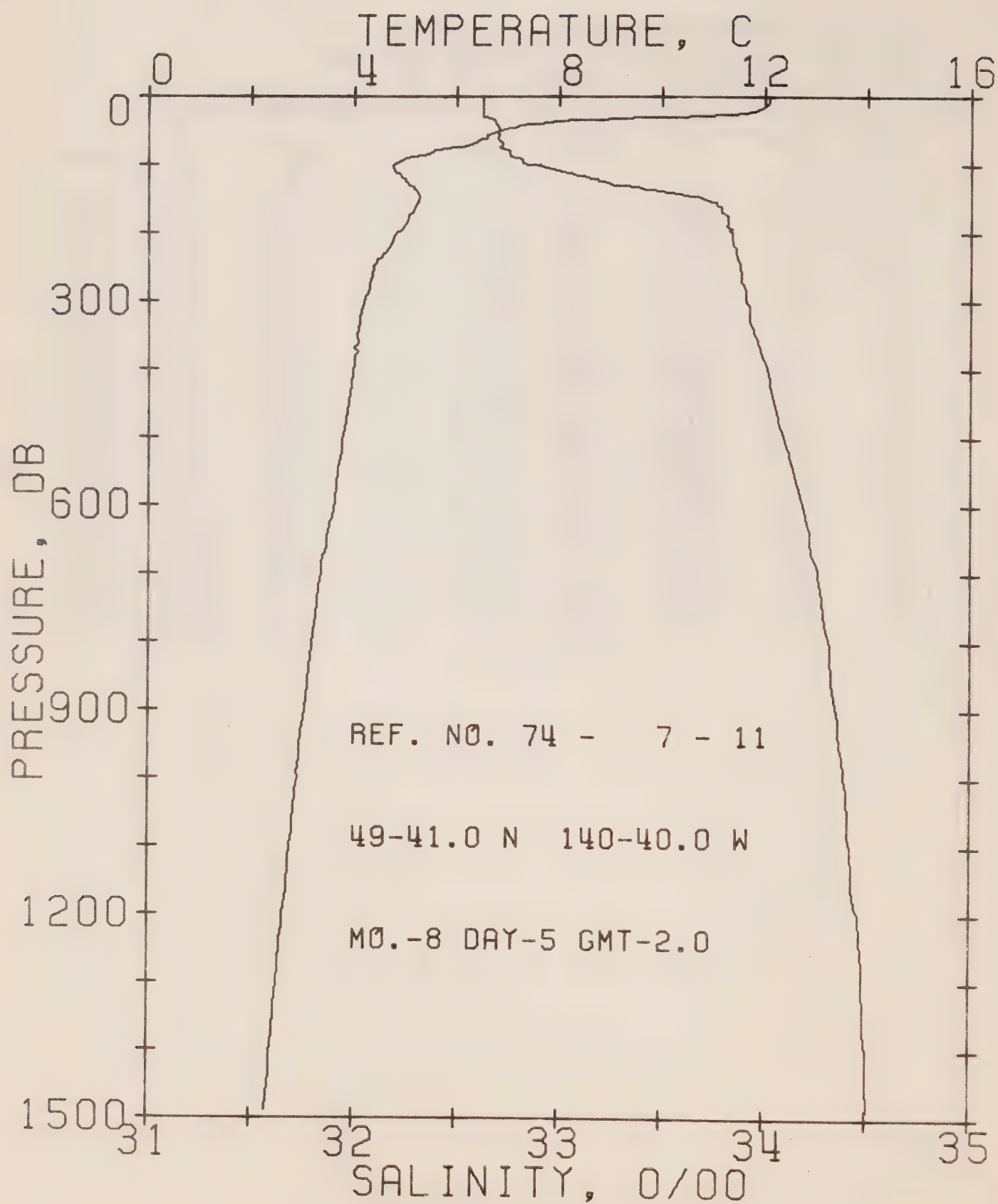
REFERENCE NO. 74- 7- 10

DATE 4/ 8/74

POSITION 49-34.0N, 129-40.0W GMT 20.7

RESULTS OF STP CAST 171 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.85	32.60	0	24.59	335.8	0.0	0.0	1497.
10	12.84	32.60	10	24.59	336.1	0.34	0.02	1497.
20	12.80	32.61	20	24.61	335.0	0.67	0.07	1498.
30	12.29	32.63	30	24.72	324.3	1.00	0.15	1496.
50	8.69	32.67	50	25.37	262.8	1.56	0.38	1483.
75	7.03	32.71	75	25.64	237.3	2.18	0.77	1477.
100	6.12	32.74	99	25.78	224.0	2.75	1.28	1474.
125	5.39	32.94	124	26.02	200.8	3.29	1.89	1472.
150	5.61	33.63	149	26.54	152.0	3.72	2.50	1474.
175	5.53	33.82	174	26.70	137.1	4.08	3.09	1474.
200	5.25	33.85	199	26.76	132.0	4.41	3.73	1474.
225	5.02	33.85	223	26.79	129.6	4.74	4.43	1473.
250	4.75	33.86	248	26.82	126.1	5.06	5.21	1473.
300	4.35	33.92	298	26.91	118.0	5.67	6.91	1472.
400	4.01	34.03	397	27.04	106.7	6.79	10.90	1472.
500	3.77	34.11	496	27.13	98.7	7.81	15.60	1473.
600	3.55	34.19	595	27.21	91.5	8.76	20.92	1474.
800	3.25	34.31	793	27.34	80.7	10.47	33.05	1476.
1000	2.90	34.40	990	27.44	71.9	11.99	47.00	1478.
1200	2.62	34.46	1188	27.51	65.4	13.37	62.40	1480.



OFFSHORE OCEANOGRAPHY GROUP

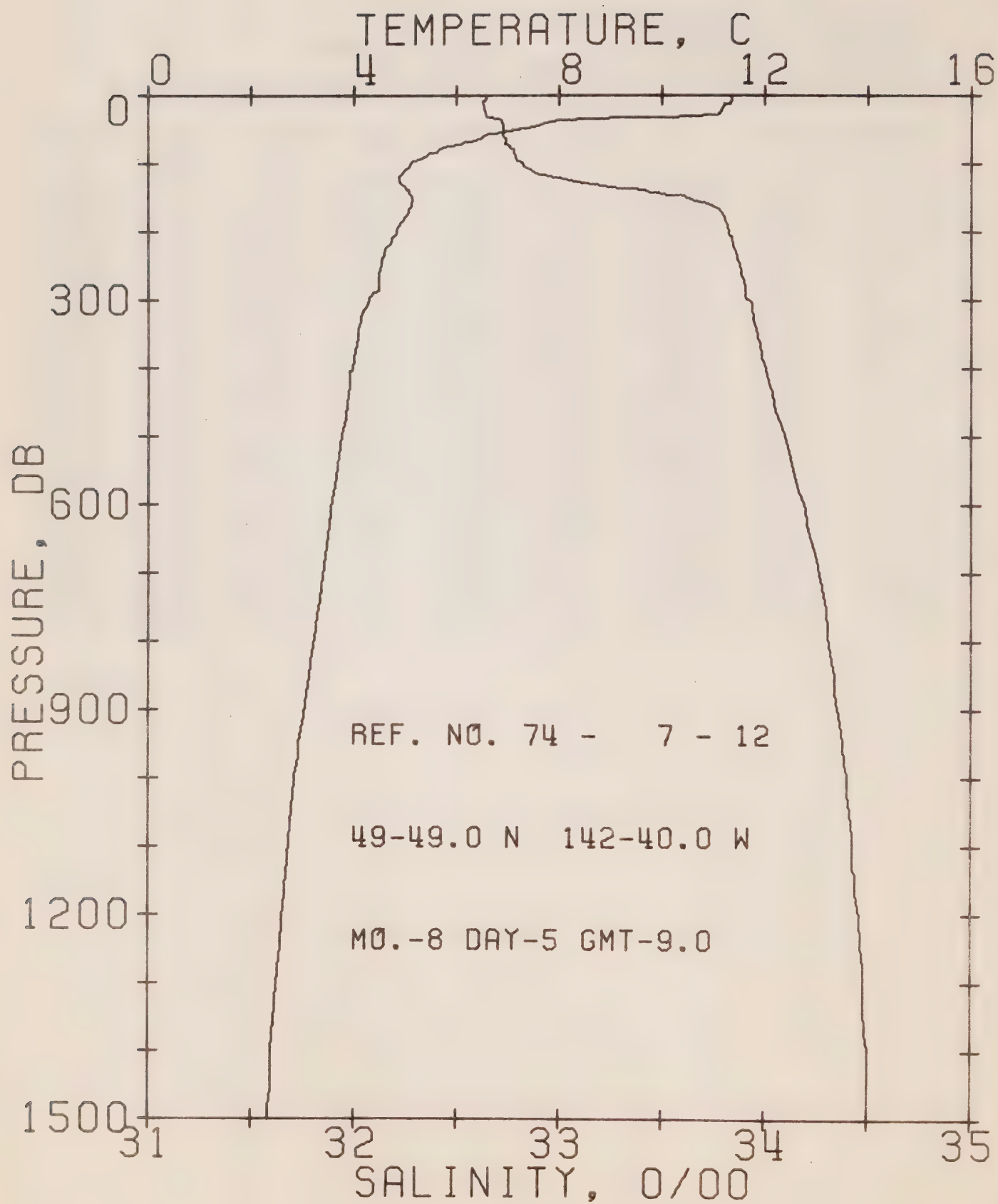
REFERENCE NO. 74- 7- 11

DATE 5/ 8/74

POSITION 49-41.0N, 140-40.0W GMT 2.0

RESULTS OF STD CAST 225 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.09	32.62	0	24.75	320.6	0.0	0.0	1495.
10	12.05	32.63	10	24.76	319.6	0.32	0.02	1495.
20	11.87	32.63	20	24.80	316.6	0.64	0.06	1494.
30	9.62	32.64	30	25.20	278.7	0.94	0.14	1486.
50	6.92	32.71	50	25.67	234.2	1.44	0.34	1476.
75	5.87	32.72	75	25.79	222.3	2.01	0.71	1473.
100	4.76	32.82	99	26.05	197.9	2.54	1.18	1469.
125	5.03	33.23	124	26.29	175.0	3.00	1.71	1471.
150	5.25	33.71	149	26.65	141.9	3.40	2.26	1473.
175	5.07	33.82	174	26.76	131.8	3.74	2.82	1473.
200	4.82	33.84	199	26.80	127.9	4.06	3.45	1472.
225	4.64	33.86	223	26.84	124.6	4.38	4.13	1472.
250	4.37	33.88	248	26.88	120.5	4.69	4.87	1471.
300	4.20	33.91	298	26.93	116.6	5.28	6.53	1471.
400	3.98	34.01	397	27.03	107.4	6.40	10.52	1472.
500	3.78	34.10	496	27.12	100.0	7.44	15.29	1473.
600	3.60	34.19	595	27.21	92.2	8.40	20.67	1474.
800	3.18	34.32	793	27.35	79.5	10.11	32.81	1476.
1000	2.90	34.39	990	27.43	72.2	11.63	46.72	1478.
1200	2.62	34.46	1188	27.51	65.2	13.01	62.23	1480.



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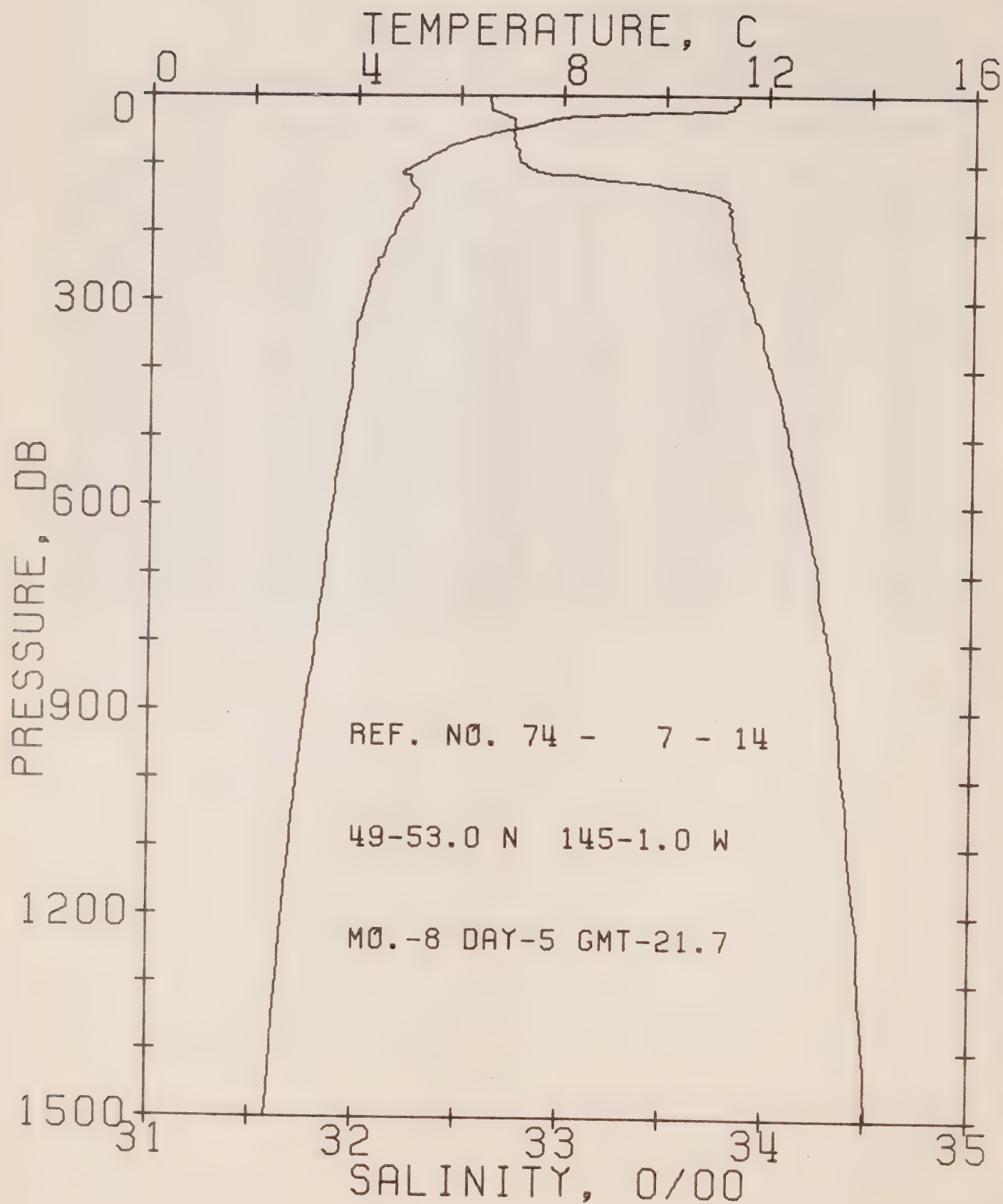
REFERENCE NO. 74- 7- 12

DATE 5/ 8/74

POSITION 49-49.0N, 142-40.0W GMT 9.0

RESULTS OF STP CAST 206 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.36	32.65	0	24.91	305.6	0.0	0.0	1492.
10	11.33	32.63	10	24.90	306.9	0.31	0.02	1492.
20	11.15	32.64	20	24.93	303.7	0.61	0.06	1492.
30	10.55	32.64	30	25.04	293.5	0.91	0.14	1490.
50	7.10	32.73	50	25.64	236.4	1.41	0.34	1477.
75	5.76	32.76	75	25.84	218.0	1.98	0.70	1472.
100	5.10	32.82	99	25.96	206.4	2.51	1.18	1470.
125	4.89	33.08	124	26.19	184.8	3.01	1.74	1470.
150	5.13	33.62	149	26.60	146.9	3.42	2.32	1472.
175	5.02	33.80	174	26.75	132.9	3.76	2.89	1472.
200	4.82	33.83	199	26.79	128.6	4.09	3.51	1472.
225	4.62	33.85	223	26.84	124.8	4.41	4.20	1472.
250	4.53	33.88	248	26.87	122.0	4.72	4.94	1472.
300	4.30	33.92	298	26.92	116.8	5.32	6.62	1472.
400	3.97	34.01	397	27.03	107.8	6.43	10.61	1472.
500	3.77	34.10	496	27.12	99.6	7.47	15.37	1473.
600	3.56	34.19	595	27.21	91.4	8.43	20.72	1474.
800	3.21	34.31	793	27.34	80.0	10.13	32.83	1476.
1000	2.83	34.40	990	27.45	70.8	11.64	46.64	1477.
1200	2.60	34.46	1188	27.51	65.1	13.01	61.92	1480.



OFFSHORE OCEANOGRAPHY GROUP

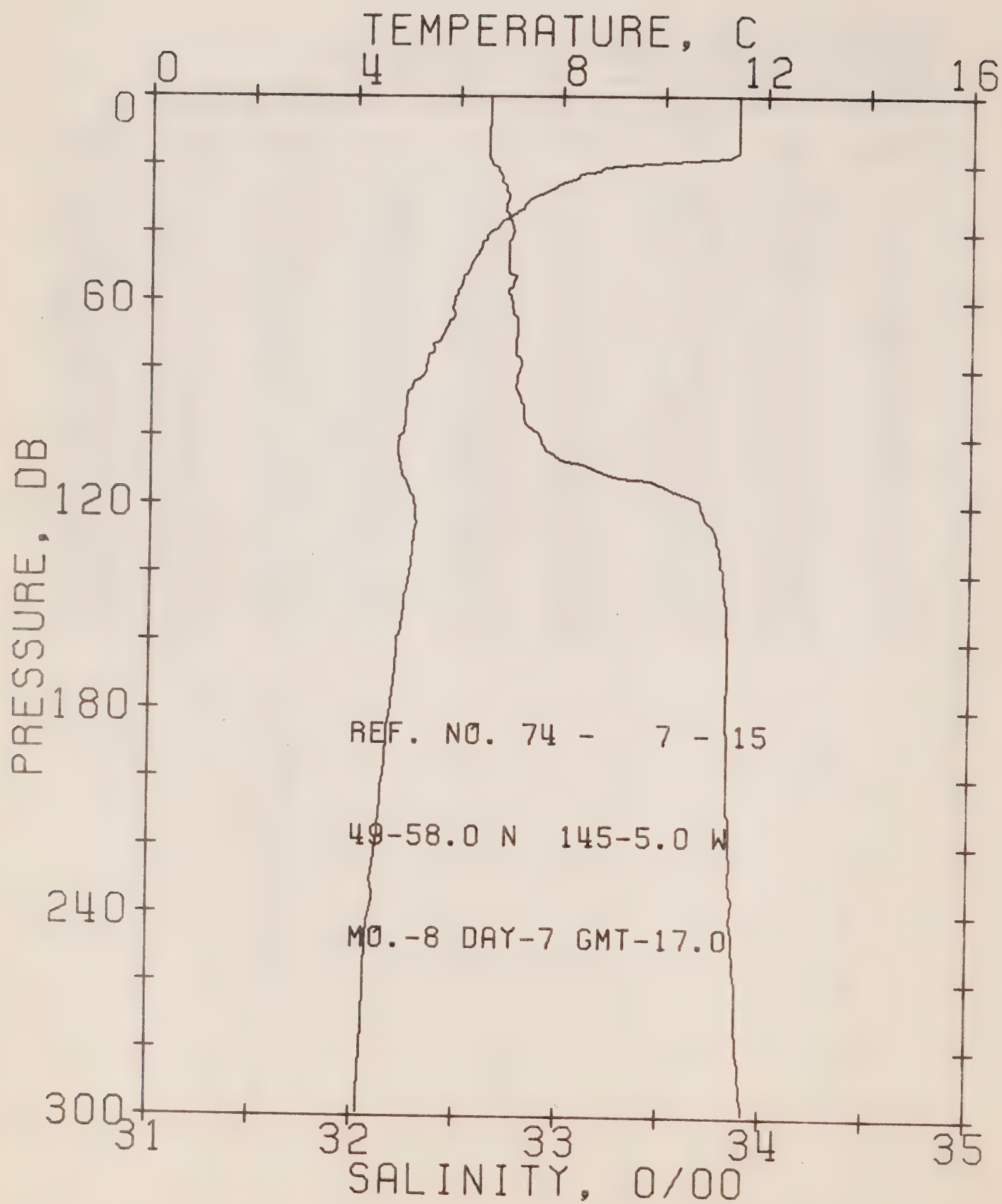
REFERENCE NO. 74- 7- 14

DATE 5/ 8/74

POSITION 49-53.0N, 145- 1.0W GMT 21.7

RESULTS OF STP CAST 224 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.41	32.65	0	24.90	306.4	0.0	0.0	1492.
10	11.38	32.64	10	24.90	307.1	0.31	0.02	1492.
20	11.28	32.65	20	24.92	304.9	0.61	0.06	1492.
30	8.26	32.73	30	25.48	251.8	0.89	0.13	1481.
50	6.91	32.76	50	25.69	231.7	1.37	0.33	1477.
75	5.74	32.77	75	25.85	217.0	1.93	0.68	1472.
100	5.16	32.81	99	25.95	207.7	2.46	1.16	1470.
125	5.03	33.32	124	26.37	168.4	2.95	1.71	1471.
150	5.16	33.77	149	26.71	136.0	3.32	2.23	1472.
175	4.88	33.92	174	26.78	129.7	3.65	2.78	1472.
200	4.72	33.83	199	26.80	127.5	3.97	3.39	1472.
225	4.54	33.85	223	26.84	124.2	4.28	4.07	1471.
250	4.39	33.87	248	26.87	121.4	4.59	4.82	1471.
300	4.16	33.91	298	26.93	116.3	5.19	6.48	1471.
400	3.93	34.02	397	27.04	106.6	6.29	10.43	1472.
500	3.74	34.11	496	27.13	98.7	7.32	15.12	1473.
600	3.55	34.19	595	27.21	91.6	8.27	20.46	1474.
800	3.23	34.31	793	27.34	80.5	9.99	32.71	1476.
1000	2.88	34.38	990	27.43	72.9	11.52	46.70	1478.
1200	2.63	34.45	1188	27.50	66.4	12.91	62.29	1480.



OFFSHORE OCEANOGRAPHY GROUP

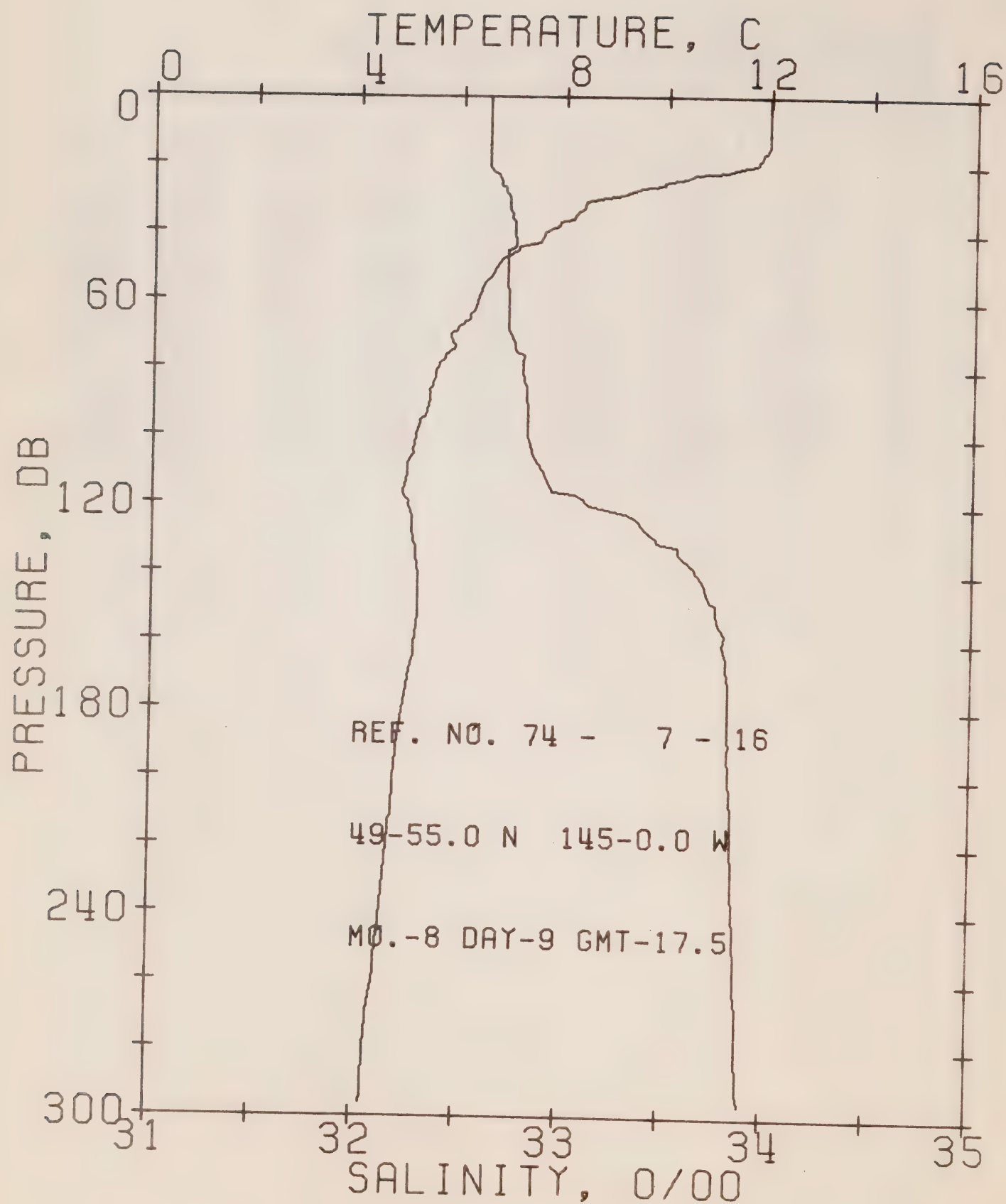
REFERENCE NO. 74- 7- 15

DATE 7/ 8/74

POSITION 49-58.0N, 145- 5.0W GMT 17.0

RESULTS OF STP CAST 147 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.44	32.65	0	24.89	307.0	0.0	0.0	1493.
10	11.43	32.64	10	24.89	307.8	0.31	0.02	1493.
20	9.38	32.66	20	25.25	273.3	0.61	0.06	1485.
30	7.40	32.74	30	25.61	239.3	0.86	0.13	1478.
50	6.22	32.74	50	25.77	224.6	1.32	0.31	1474.
75	5.51	32.78	75	25.88	213.6	1.87	0.66	1471.
100	4.86	32.90	99	26.05	197.7	2.39	1.12	1469.
125	5.19	33.73	124	26.67	139.4	2.81	1.60	1472.
150	4.95	33.82	149	26.77	130.2	3.14	2.07	1472.
175	4.75	33.82	174	26.80	127.9	3.46	2.60	1471.
200	4.58	33.83	199	26.82	126.0	3.78	3.20	1471.
225	4.40	33.85	223	26.86	122.8	4.09	3.88	1471.
250	4.27	33.86	248	26.88	120.7	4.40	4.62	1471.



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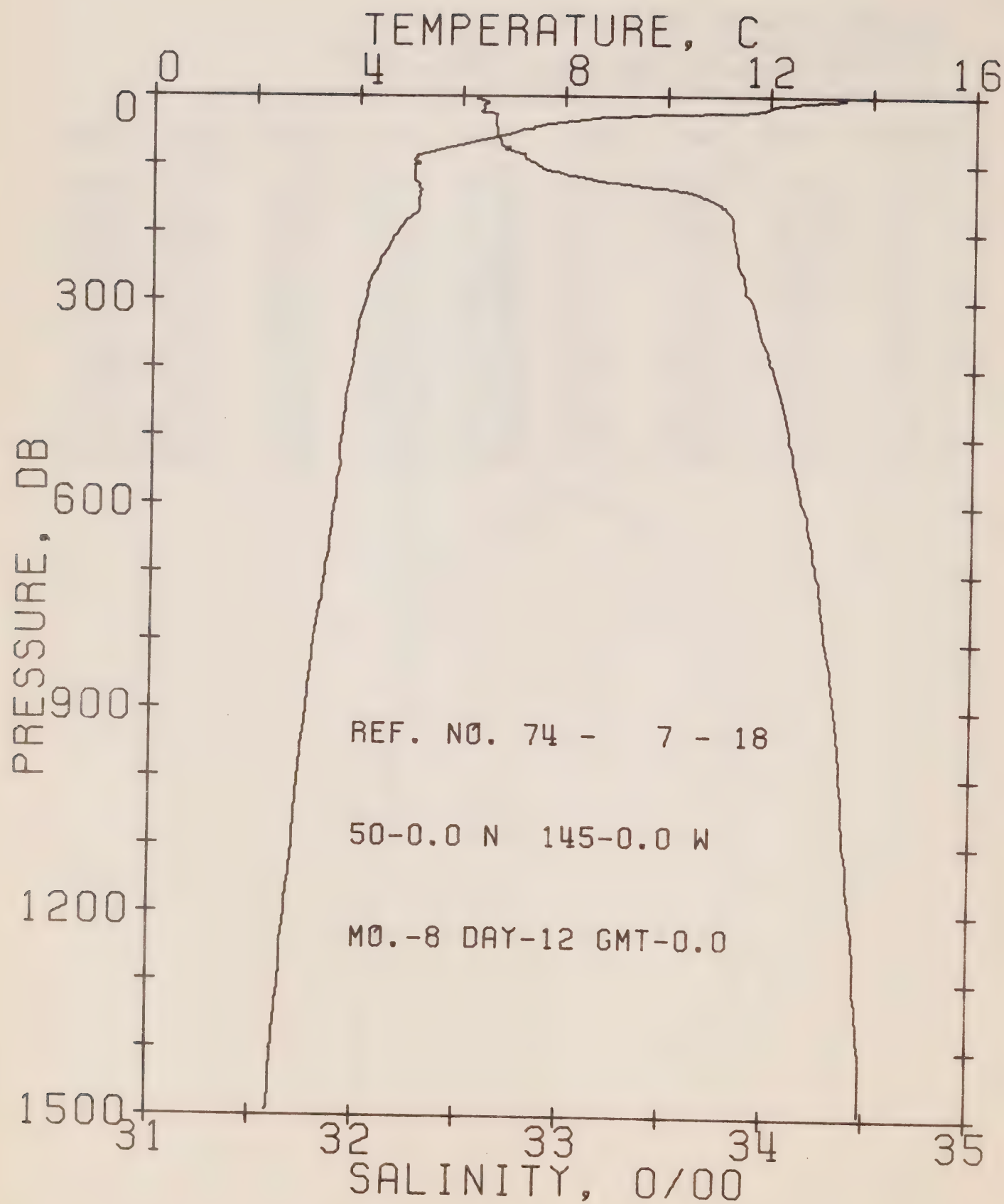
REFERENCE NO. 74- 7- 16

DATE 9/ 8/74

POSITION 49-55.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 124 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.97	32.63	0	24.78	317.7	0.0	0.0	1494.
10	11.97	32.63	10	24.78	318.1	0.32	0.02	1495.
20	11.71	32.63	20	24.83	313.8	0.63	0.06	1494.
30	8.66	32.73	30	25.42	257.6	0.92	0.14	1483.
50	6.67	32.72	50	25.69	231.6	1.40	0.33	1476.
75	5.77	32.77	75	25.85	217.4	1.97	0.69	1472.
100	5.11	32.83	99	25.97	205.6	2.49	1.16	1470.
125	5.07	33.37	124	26.40	164.8	2.97	1.71	1471.
150	5.20	33.75	149	26.69	138.2	3.34	2.23	1473.
175	4.96	33.82	174	26.77	130.6	3.68	2.78	1472.
200	4.76	33.83	199	26.80	127.9	4.00	3.40	1472.
225	4.60	33.85	223	26.83	125.3	4.32	4.09	1472.
250	4.45	33.86	248	26.86	122.5	4.63	4.84	1471.



OFFSHORE OCEANOGRAPHY GROUP

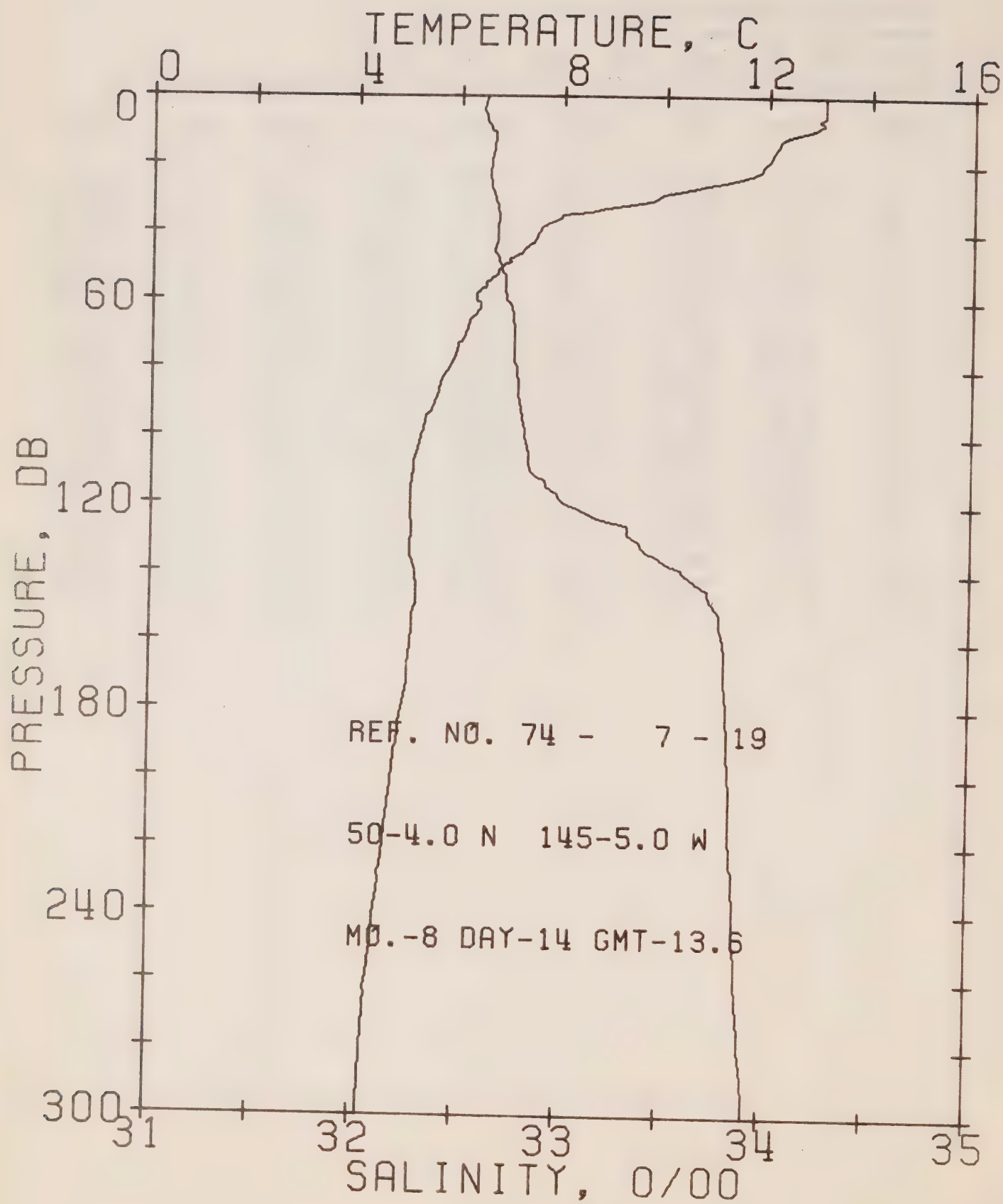
REFERENCE NO. 74- 7- 18

DATE 12/ 8/74

POSITION 50- 0.0N, 145- 0.0W GMT 0.0

RESULTS OF STP CAST 202 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.34	32.58	0	24.48	346.6	0.0	0.0	1499.
10	12.50	32.62	10	24.67	328.4	0.34	0.02	1496.
20	11.81	32.60	20	24.79	317.7	0.66	0.07	1494.
30	8.76	32.66	30	25.35	264.2	0.96	0.14	1483.
50	7.12	32.67	50	25.59	241.2	1.46	0.34	1477.
75	5.71	32.72	75	25.82	220.2	2.04	0.71	1472.
100	5.07	32.97	99	26.01	202.3	2.56	1.18	1470.
125	5.12	33.23	124	26.28	176.1	3.04	1.73	1471.
150	5.14	33.70	149	26.66	140.9	3.43	2.27	1472.
175	5.03	33.81	174	26.76	131.8	3.77	2.83	1472.
200	4.72	33.83	199	26.80	127.6	4.09	3.45	1472.
225	4.54	33.94	223	26.83	124.9	4.41	4.13	1471.
250	4.36	33.85	248	26.86	122.3	4.72	4.88	1471.
300	4.12	33.92	298	26.94	115.2	5.31	6.54	1471.
400	3.88	34.03	397	27.05	105.5	6.42	10.47	1472.
500	3.69	34.11	496	27.13	98.1	7.43	15.11	1473.
600	3.56	34.18	595	27.20	92.2	8.38	20.46	1474.
800	3.17	34.29	793	27.33	81.2	10.11	32.74	1475.
1000	2.89	34.37	990	27.42	73.7	11.65	46.80	1478.
1200	2.66	34.42	1188	27.48	68.5	13.07	62.75	1480.



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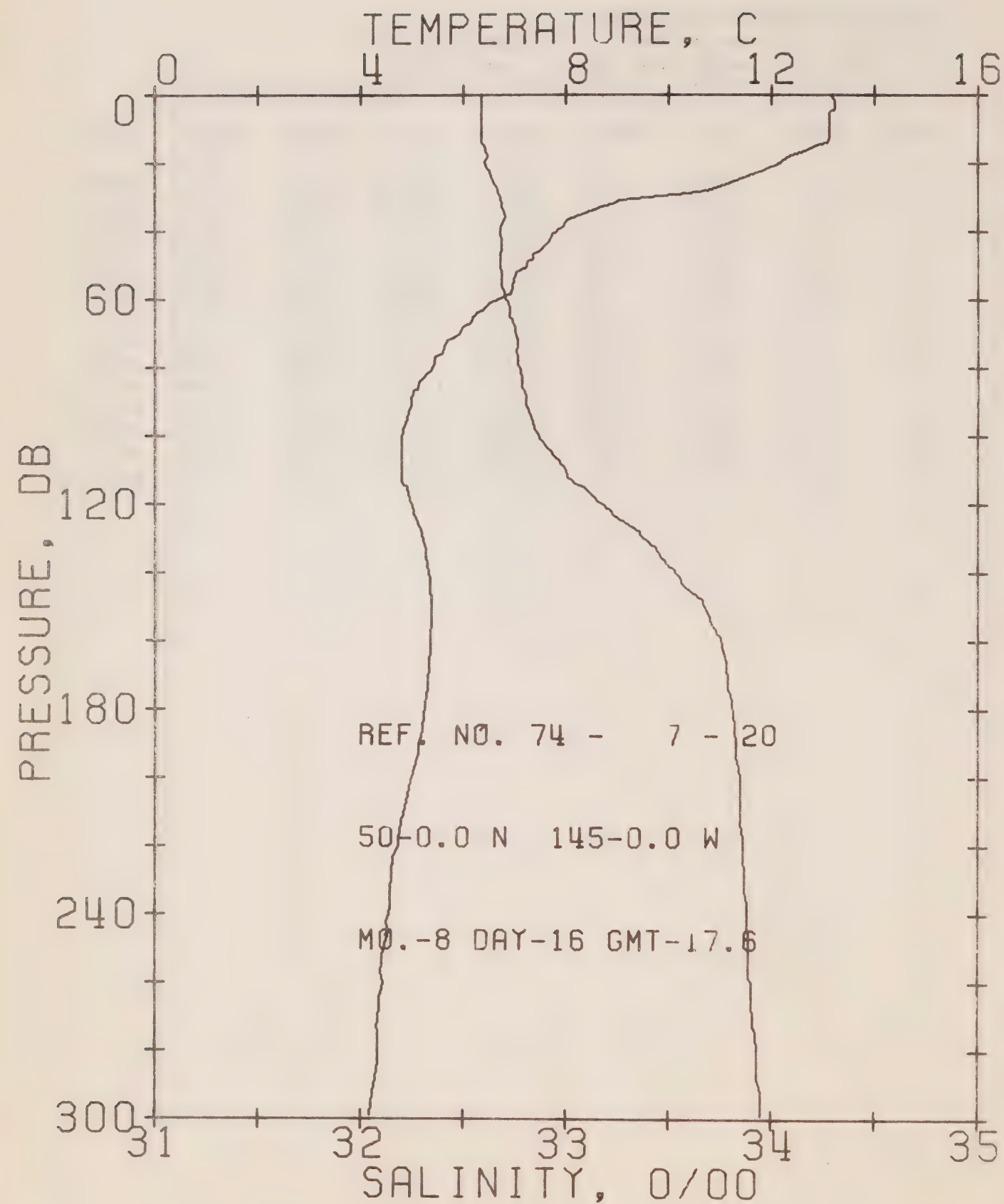
REFERENCE NO. 74- 7- 19

DATE 14/ 8/74

POSITION 50- 4.0N, 145- 5.0W GMT 13.6

RESULTS OF STP CAST 140 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.09	32.63	0	24.56	338.2	0.0	0.0	1498.
10	12.81	32.65	10	24.64	331.9	0.34	0.02	1497.
20	11.93	32.65	20	24.80	316.2	0.66	0.07	1495.
30	9.83	32.67	30	25.19	279.7	0.96	0.14	1487.
50	6.83	32.70	50	25.66	235.2	1.46	0.34	1476.
75	5.94	32.77	75	25.82	219.4	2.02	0.70	1473.
100	5.26	32.82	99	25.94	208.1	2.56	1.18	1471.
125	5.10	33.26	124	26.31	173.6	3.05	1.75	1471.
150	5.17	33.75	149	26.69	137.6	3.44	2.28	1473.
175	5.00	33.81	174	26.76	131.5	3.77	2.84	1472.
200	4.75	33.84	199	26.81	127.4	4.09	3.45	1472.
225	4.57	33.85	223	26.84	124.6	4.41	4.13	1471.
250	4.38	33.87	248	26.87	121.2	4.72	4.88	1471.
300	4.16	33.93	298	26.94	114.9	5.30	6.52	1471.



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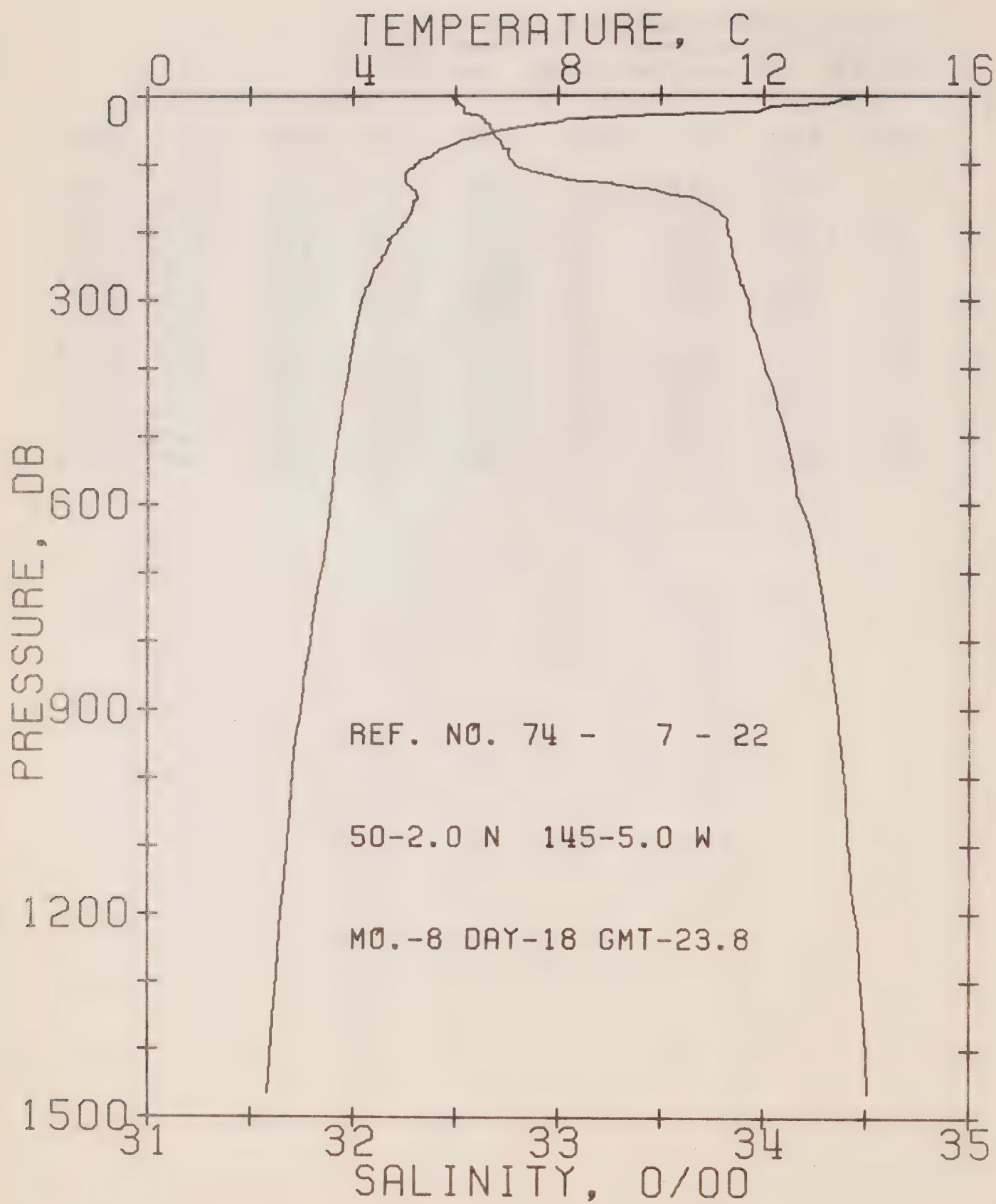
REFERENCE NO. 74- 7- 20

DATE 16/ 8/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.6

RESULTS OF STD CAST 147 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.18	32.59	0	24.52	342.8	0.0	0.0	1498.
10	13.12	32.59	10	24.53	342.2	0.34	0.02	1498.
20	12.17	32.60	20	24.72	324.2	0.68	0.07	1495.
30	9.60	32.68	30	25.23	275.4	0.98	0.15	1486.
50	7.23	32.68	50	25.59	241.9	1.49	0.35	1478.
75	5.60	32.76	75	25.86	216.2	2.06	0.71	1472.
100	4.79	32.87	99	26.04	199.2	2.58	1.17	1469.
125	5.12	33.29	124	26.33	171.5	3.04	1.71	1471.
150	5.39	33.67	149	26.61	146.1	3.44	2.26	1473.
175	5.28	33.80	174	26.72	135.7	3.79	2.84	1473.
200	4.99	33.95	199	26.79	129.1	4.12	3.48	1473.
225	4.61	33.86	223	26.84	124.0	4.44	4.16	1472.
250	4.43	33.89	248	26.88	120.3	4.74	4.90	1471.



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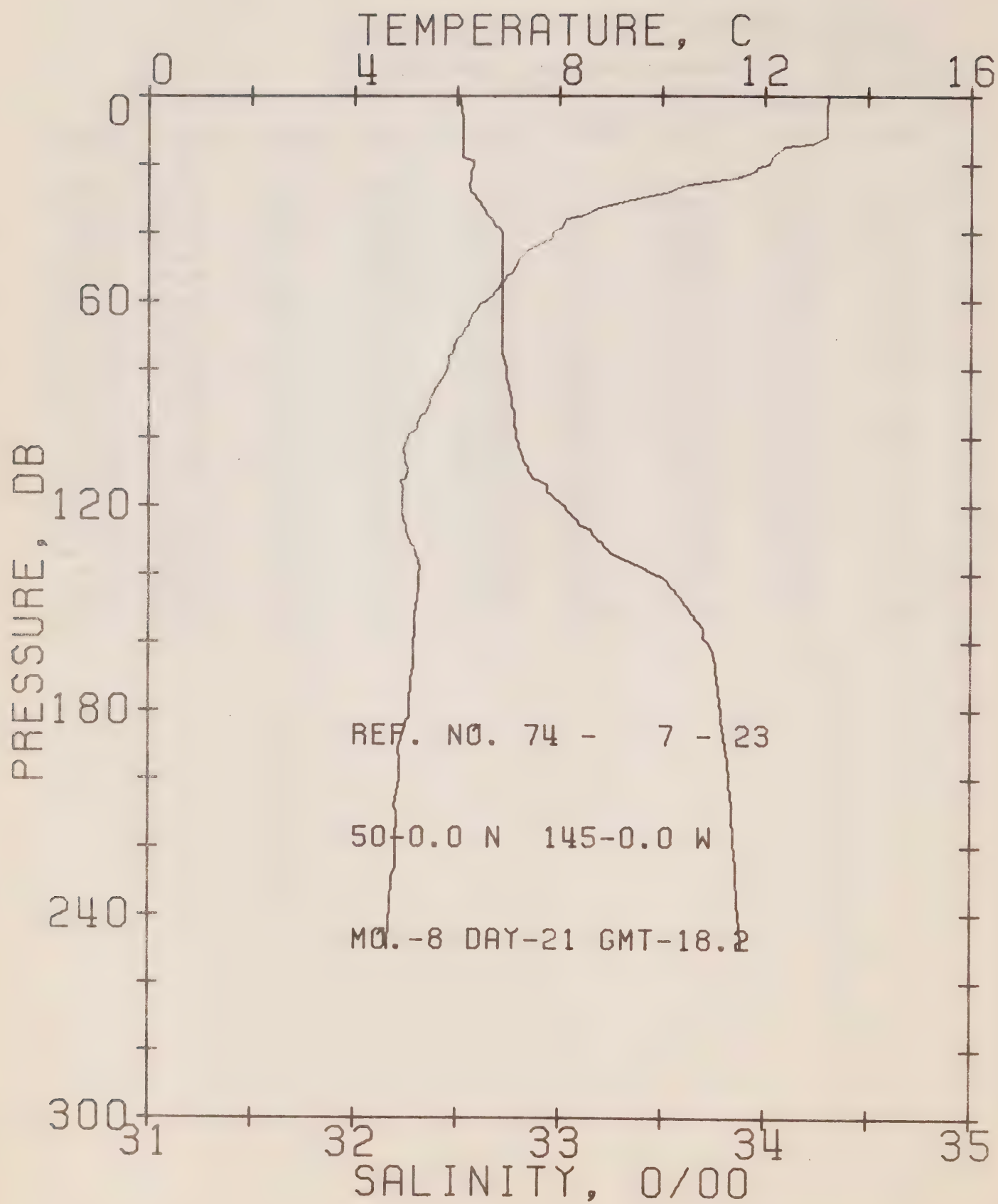
REFERENCE NO. 74- 7- 22

DATE 19/ 8/74

POSITION 50- 2.0N, 145- 5.0W GMT 23.8

RESULTS OF STP CAST 180 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.71	32.49	0	24.33	360.3	0.0	0.0	1500.
10	13.27	32.51	10	24.44	350.5	0.36	0.02	1499.
20	12.00	32.54	20	24.70	325.5	0.69	0.07	1495.
30	9.14	32.63	30	25.27	272.1	1.00	0.15	1485.
50	6.91	32.68	50	25.63	237.9	1.50	0.35	1476.
75	5.80	32.73	75	25.81	220.7	2.07	0.71	1472.
100	5.21	32.79	99	25.93	209.7	2.61	1.19	1471.
125	5.00	33.08	124	26.18	185.7	3.11	1.76	1471.
150	5.25	33.65	149	26.60	146.1	3.51	2.33	1473.
175	5.09	33.79	174	26.73	134.0	3.86	2.91	1473.
200	4.84	33.83	199	26.79	128.8	4.19	3.53	1472.
225	4.65	33.94	223	26.82	125.9	4.51	4.22	1472.
250	4.47	33.87	248	26.86	122.3	4.82	4.97	1471.
300	4.16	33.93	298	26.94	114.9	5.41	6.64	1471.
400	3.91	34.01	397	27.03	107.2	6.53	10.60	1472.
500	3.70	34.11	496	27.14	98.1	7.55	15.29	1473.
600	3.56	34.18	595	27.20	92.2	8.50	20.63	1474.
800	3.17	34.32	793	27.35	79.1	10.20	32.68	1476.
1000	2.82	34.39	990	27.44	71.2	11.70	46.37	1477.
1200	2.58	34.44	1188	27.50	66.0	13.07	61.80	1480.



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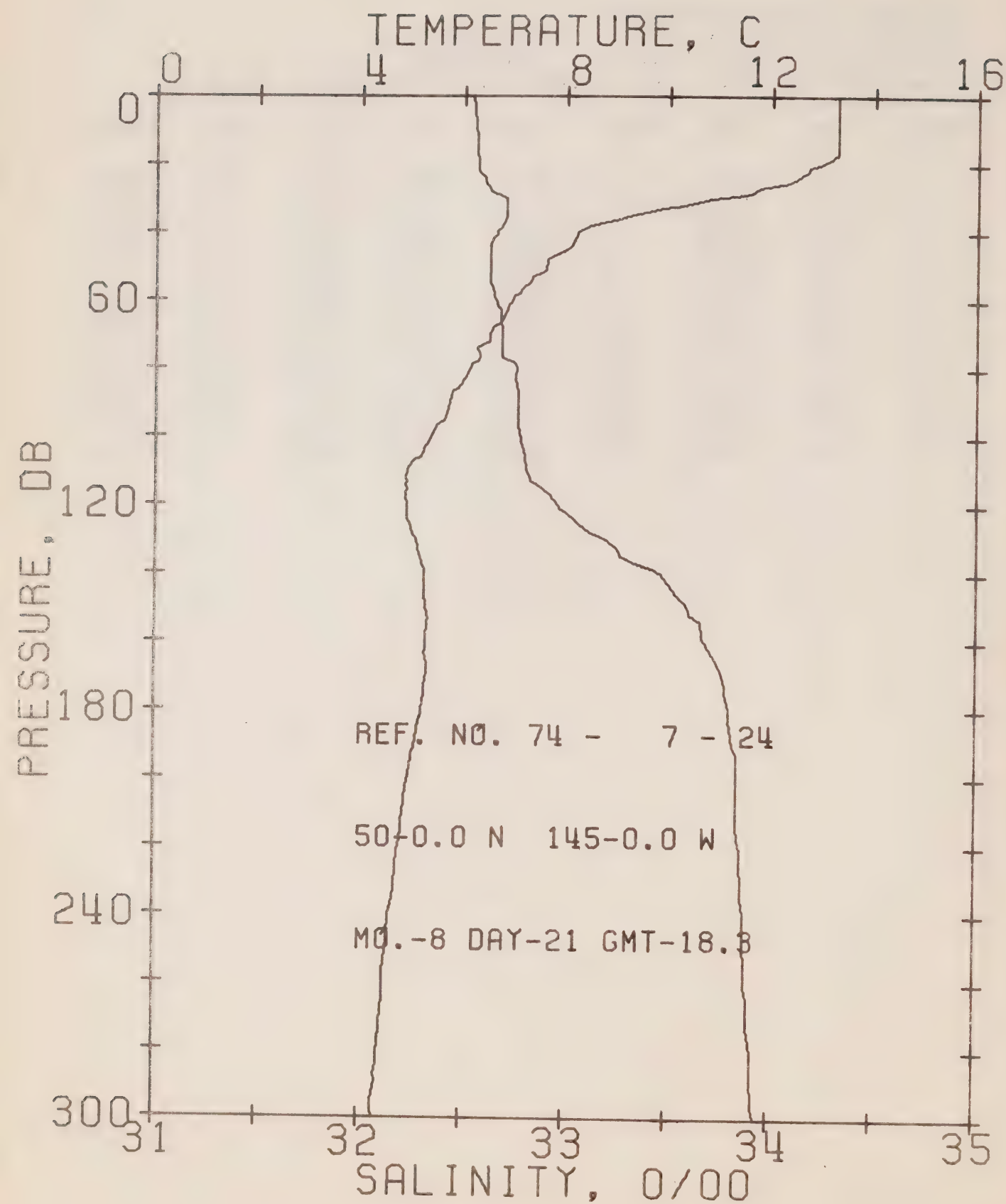
REFERENCE NO. 74- 7- 23

DATE 21/ 8/74

POSITION 50- 0.0N, 145- 0.0W . GMT 19.2

RESULTS OF STD CAST 127 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.22	32.51	0	24.45	349.5	0.0	0.0	1499.
10	13.20	32.53	10	24.47	348.0	0.35	0.02	1499.
20	12.07	32.58	20	24.72	323.8	0.69	0.07	1495.
30	9.60	32.59	30	25.17	281.7	0.99	0.15	1486.
50	7.14	32.72	50	25.63	237.6	1.49	0.35	1477.
75	5.92	32.72	75	25.79	222.8	2.07	0.71	1473.
100	5.05	32.79	99	25.94	208.1	2.61	1.19	1470.
125	4.98	33.09	124	26.19	184.6	3.10	1.76	1470.
150	5.20	33.63	149	26.59	147.5	3.52	2.34	1472.
175	5.08	33.78	174	26.72	135.3	3.87	2.92	1473.
200	4.87	33.83	199	26.79	129.2	4.20	3.55	1472.
225	4.80	33.86	223	26.82	126.5	4.51	4.24	1472.
250	4.63	33.89	248	26.86	122.5	4.83	4.99	1472.



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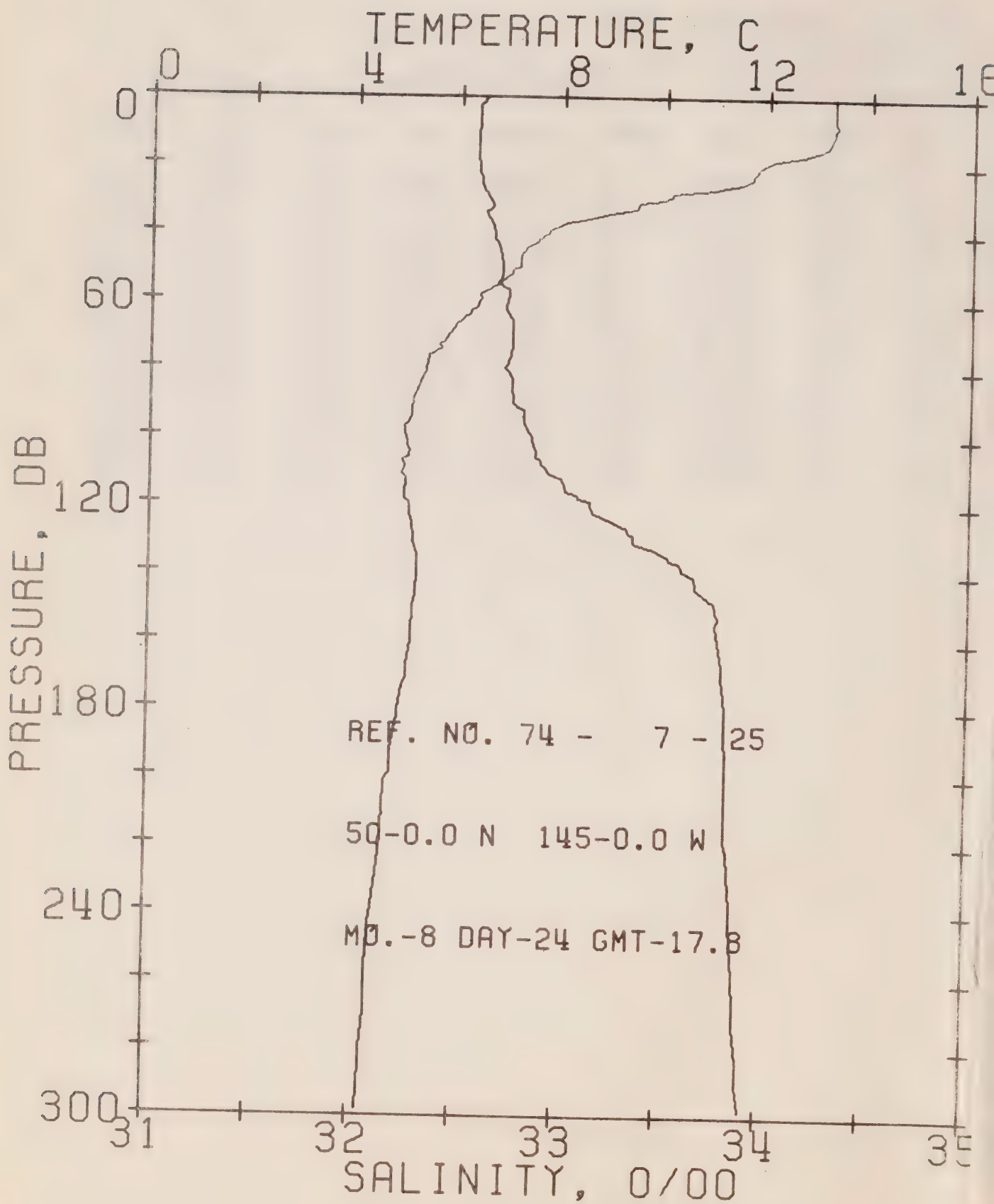
REFERENCE NO. 74- 7- 24

DATE 21/ 8/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.3

RESULTS OF STD. CAST 135 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SV4	DELTA D	POT. EN	SOUND
0	13.29	32.54	0	24.46	348.6	0.0	0.0	1499.
10	13.28	32.56	10	24.47	347.7	0.35	0.02	1499.
20	12.94	32.57	20	24.55	340.4	0.69	0.07	1498.
30	10.83	32.71	30	25.05	293.0	1.02	0.15	1491.
50	7.61	32.63	50	25.49	250.6	1.54	0.37	1479.
75	6.29	32.69	75	25.72	229.5	2.14	0.74	1474.
100	5.37	32.78	99	25.90	212.5	2.69	1.23	1471.
125	4.96	33.06	124	26.17	187.0	3.19	1.81	1470.
150	5.29	33.60	149	26.56	150.7	3.61	2.39	1473.
175	5.24	33.78	174	26.71	136.7	3.97	2.98	1473.
200	4.95	33.84	199	26.79	129.3	4.30	3.62	1473.
225	4.73	33.86	223	26.83	125.6	4.62	4.31	1472.
250	4.54	33.88	248	26.87	122.1	4.93	5.06	1472.
300	4.29	33.94	298	26.94	115.5	5.52	6.72	1472.



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REFERENCE NO. 74- 7- 25

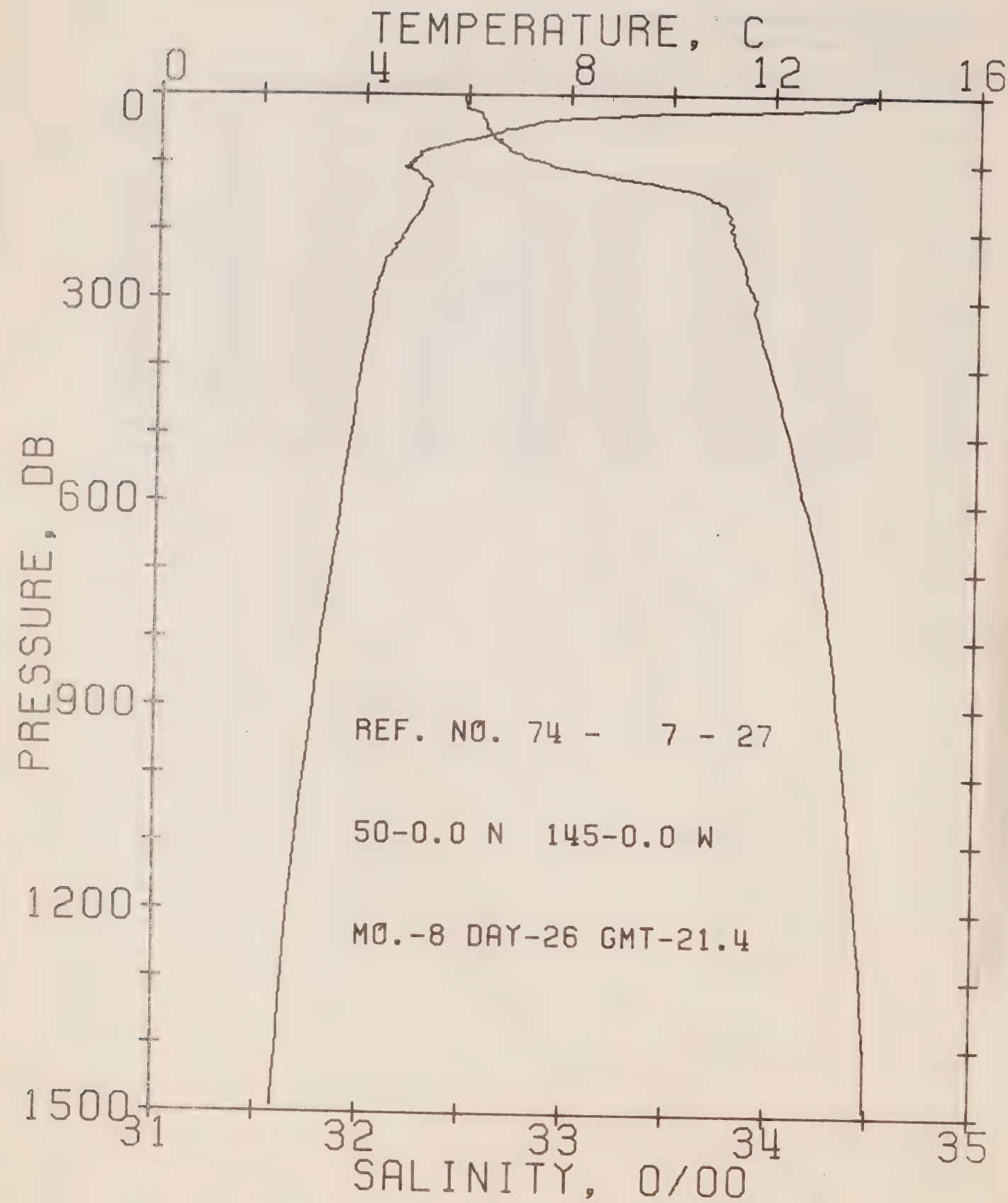
DATE 24/ 8/74

POSITION 50- 0.0N, 145- 0.0W

GMT 17.8

RESULTS OF STD CAST 138 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. FN	SOUND
0	13.28	32.63	0	24.53	341.7	0.0	0.0	1499.
10	13.26	32.58	10	24.50	345.2	0.34	0.02	1499.
20	11.84	32.59	20	24.77	319.0	0.68	0.07	1494.
30	9.95	32.64	30	25.14	283.9	0.99	0.15	1488.
50	7.16	32.71	50	25.62	238.6	1.50	0.35	1477.
75	5.55	32.75	75	25.86	216.3	2.06	0.71	1471.
100	4.99	32.86	99	26.01	202.1	2.58	1.18	1470.
125	5.11	33.28	124	26.33	172.2	3.06	1.72	1471.
150	5.15	33.77	149	26.71	136.2	3.45	2.26	1472.
175	4.94	33.81	174	26.77	130.9	3.78	2.81	1472.
200	4.69	33.83	199	26.81	127.2	4.10	3.43	1471.
225	4.52	33.84	223	26.84	124.5	4.42	4.11	1471.
250	4.34	33.87	248	26.88	120.7	4.72	4.85	1471.



OFFSHORE OCEANOGRAPHY GROUP

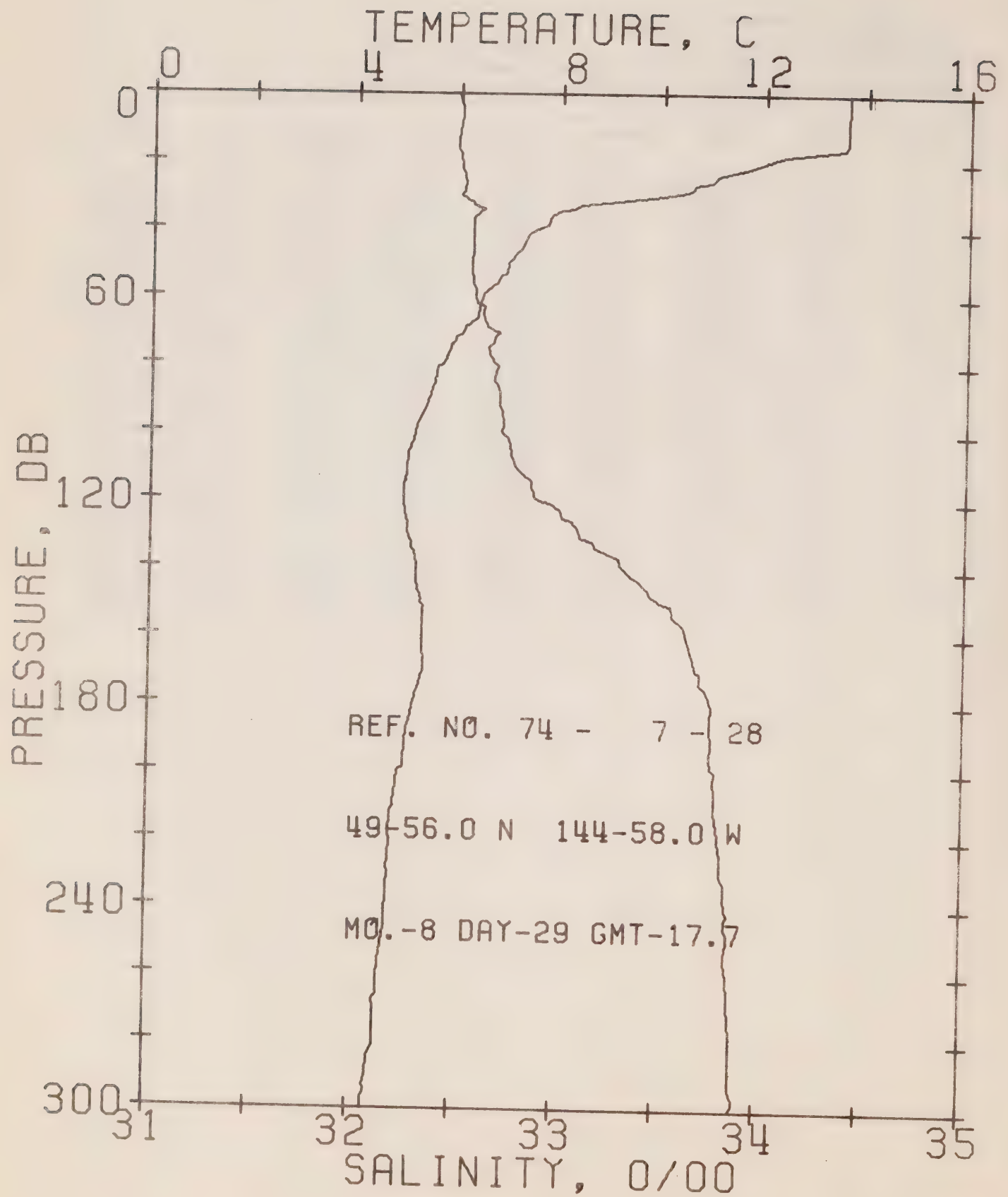
REFERENCE NO. 74- 7- 27

DATE 26/ 8/74

POSITION 50- 0.0N, 145- 0.0W GMT 21.4

RESULTS OF STP CAST 186 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.80	32.48	0	24.31	362.7	0.0	0.0	1500.
10	13.50	32.48	10	24.37	357.4	0.36	0.02	1500.
20	12.73	32.50	20	24.53	341.7	0.72	0.07	1497.
30	9.03	32.57	30	25.24	274.9	1.02	0.15	1484.
50	6.75	32.60	50	25.59	241.6	1.53	0.35	1476.
75	5.48	32.69	75	25.82	220.0	2.11	0.72	1471.
100	4.88	32.89	99	26.04	198.7	2.63	1.19	1469.
125	5.19	33.31	124	26.34	170.6	3.10	1.72	1472.
150	5.18	33.69	149	26.64	142.6	3.48	2.26	1472.
175	5.00	33.78	174	26.74	133.7	3.83	2.83	1472.
200	4.78	33.80	199	26.78	130.1	4.16	3.46	1472.
225	4.59	33.82	223	26.81	127.0	4.48	4.16	1471.
250	4.36	33.86	248	26.87	121.8	4.79	4.91	1471.
300	4.16	33.92	298	26.94	115.7	5.39	6.58	1471.
400	3.95	33.99	397	27.01	108.8	6.52	10.62	1472.
500	3.77	34.08	496	27.11	100.8	7.57	15.41	1473.
600	3.59	34.17	595	27.19	93.5	8.54	20.85	1474.
800	3.22	34.30	793	27.33	81.4	10.27	33.19	1476.
1000	2.92	34.37	990	27.41	74.1	11.83	47.42	1478.
1200	2.63	34.43	1188	27.49	67.3	13.24	63.20	1480.



OFFSHORE OCEANOGRAPHY GROUP

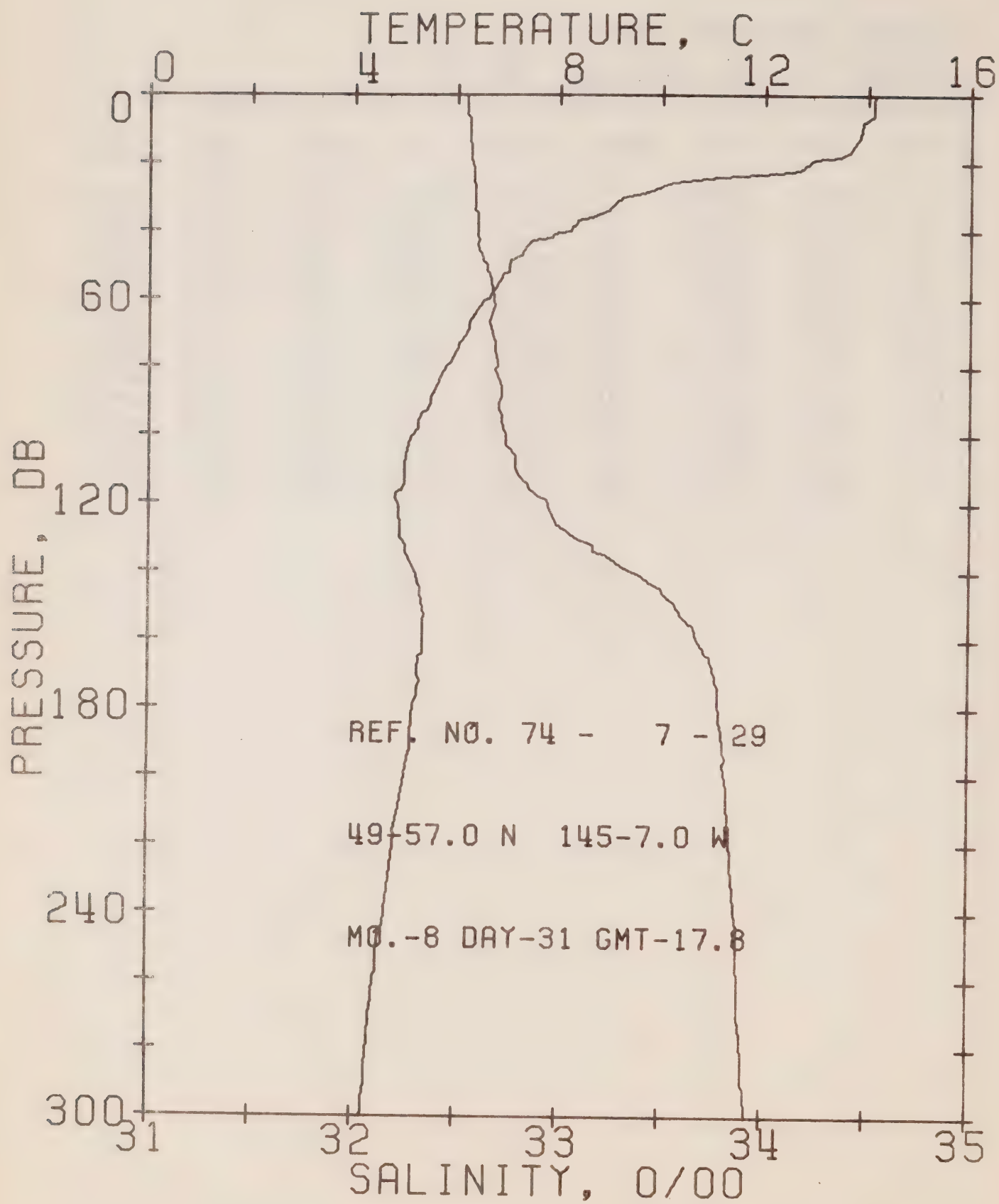
REFERENCE NO. 74- 7- 28

DATE 29/ 8/74

POSITION 49-56.0N, 144-58.0W GMT 17.7

RESULTS OF STP CAST 160 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.63	32.49	0	24.35	358.7	0.0	0.0	1500.
10	13.61	32.50	10	24.36	357.8	0.36	0.02	1500.
20	11.99	32.50	20	24.68	328.0	0.71	0.07	1495.
30	10.00	32.51	30	25.03	294.3	1.02	0.15	1488.
50	6.96	32.56	50	25.53	247.2	1.53	0.36	1477.
75	5.83	32.65	75	25.74	227.1	2.13	0.74	1473.
100	5.18	32.72	99	25.87	214.7	2.67	1.22	1470.
125	5.01	33.02	124	26.13	190.6	3.18	1.81	1470.
150	5.32	33.51	149	26.48	157.6	3.62	2.41	1473.
175	5.27	33.73	174	26.66	140.9	3.99	3.03	1473.
200	4.92	33.79	199	26.75	132.7	4.33	3.68	1472.
225	4.75	33.82	223	26.79	128.8	4.66	4.39	1472.
250	4.63	33.86	248	26.84	124.8	4.98	5.16	1472.
300	4.29	33.89	298	26.90	119.2	5.59	6.87	1471.



OFFSHORE OCEANOGRAPHY GROUP

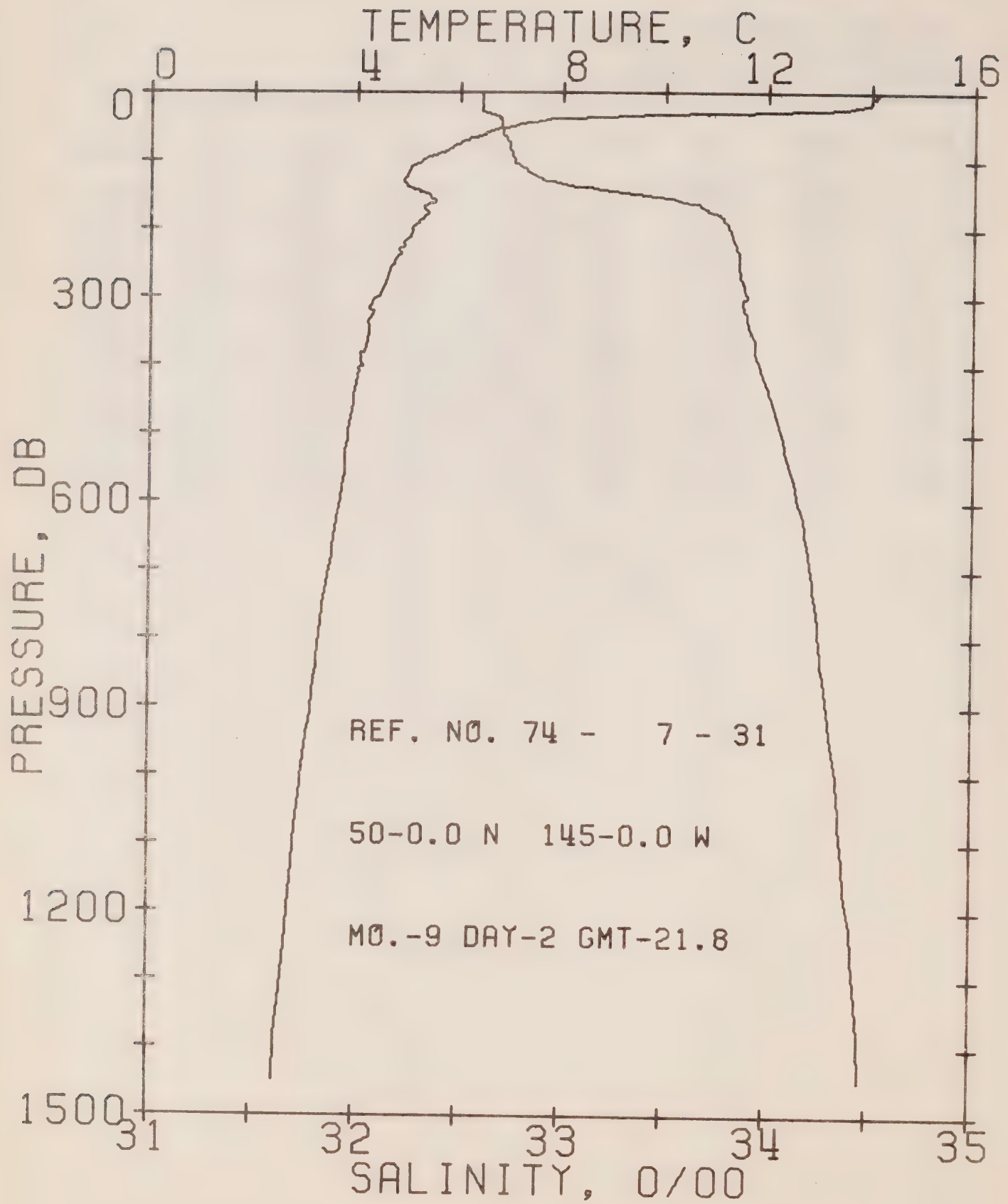
REFERENCE NO. 74- 7- 29

DATE 31/ 8/74

POSITION 49-57.0N, 145- 7.0W GMT 17.8

RESULTS OF STP CAST 141 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.12	32.55	0	24.29	363.9	0.0	0.0	1502.
10	13.86	32.56	10	24.36	358.5	0.36	0.02	1501.
20	12.85	32.57	20	24.57	338.6	0.72	0.07	1498.
30	9.23	32.59	30	25.22	276.4	1.02	0.15	1485.
50	7.00	32.65	50	25.59	241.1	1.54	0.36	1477.
75	6.00	32.69	75	25.75	226.0	2.12	0.73	1473.
100	5.16	32.74	99	25.89	213.0	2.67	1.22	1470.
125	4.89	32.98	124	26.11	192.3	3.18	1.80	1470.
150	5.35	33.57	149	26.53	153.5	3.61	2.40	1473.
175	5.25	33.78	174	26.70	136.9	3.97	2.99	1473.
200	5.01	33.82	199	26.76	131.5	4.30	3.64	1473.
225	4.76	33.85	223	26.82	126.7	4.63	4.33	1472.
250	4.50	33.88	248	26.87	121.8	4.94	5.08	1472.
300	4.20	33.93	298	26.94	115.3	5.53	6.75	1471.



OFFSHORE OCEANOGRAPHY GROUP

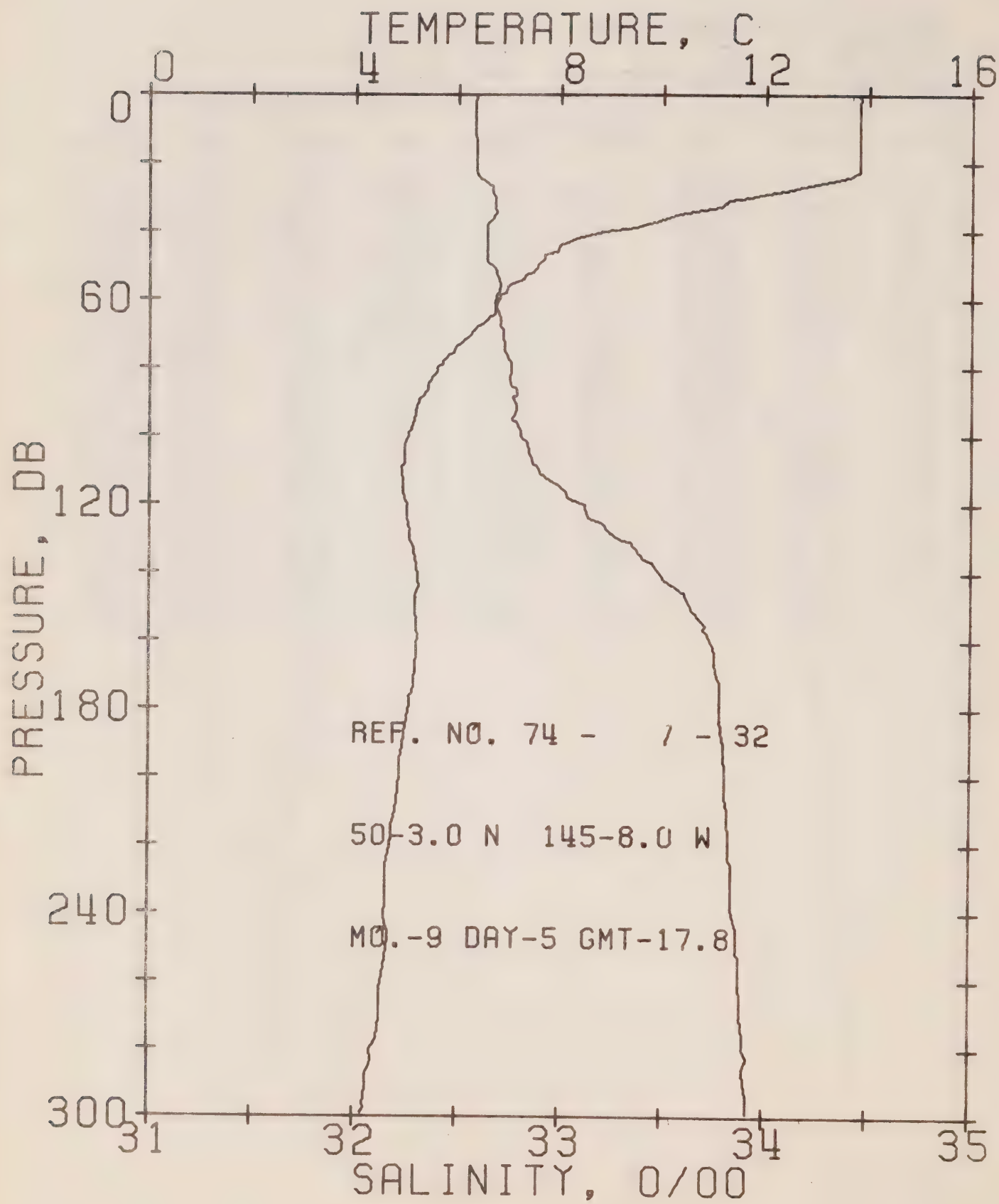
REFERENCE NO. 74- 7- 31

DATE 2/ 9/74

POSITION 50- 0.0N, 145- 0.0W GMT 21.8

RESULTS OF STD CAST 216 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.12	32.60	0	24.33	360.2	0.0	0.0	1502.
10	13.99	32.61	10	24.37	357.5	0.36	0.02	1501.
20	13.74	32.61	20	24.42	352.7	0.72	0.07	1501.
30	10.90	32.64	30	24.98	299.3	1.05	0.16	1491.
50	6.96	32.70	50	25.64	236.9	1.56	0.36	1477.
75	5.98	32.74	75	25.80	222.0	2.13	0.72	1473.
100	5.25	32.77	99	25.91	211.7	2.67	1.21	1471.
125	4.92	32.90	124	26.05	198.6	3.18	1.80	1470.
150	5.41	33.41	149	26.39	166.1	3.65	2.44	1473.
175	5.39	33.73	174	26.65	142.2	4.02	3.06	1474.
200	5.09	33.82	199	26.75	132.5	4.36	3.71	1473.
225	4.92	33.85	223	26.80	128.5	4.69	4.42	1473.
250	4.71	33.86	248	26.83	125.6	5.01	5.19	1472.
300	4.44	33.90	298	26.89	120.2	5.62	6.91	1472.
400	4.13	33.96	397	26.97	113.1	6.79	11.07	1473.
500	3.84	34.07	496	27.09	102.4	7.86	15.97	1473.
600	3.69	34.15	595	27.17	95.6	8.85	21.52	1474.
800	3.29	34.25	793	27.29	85.3	10.64	34.26	1476.
1000	2.96	34.35	990	27.39	76.0	12.26	49.08	1478.
1200	2.72	34.40	1188	27.46	70.4	13.73	65.57	1480.



OFFSHORE OCEANOGRAPHY GROUP

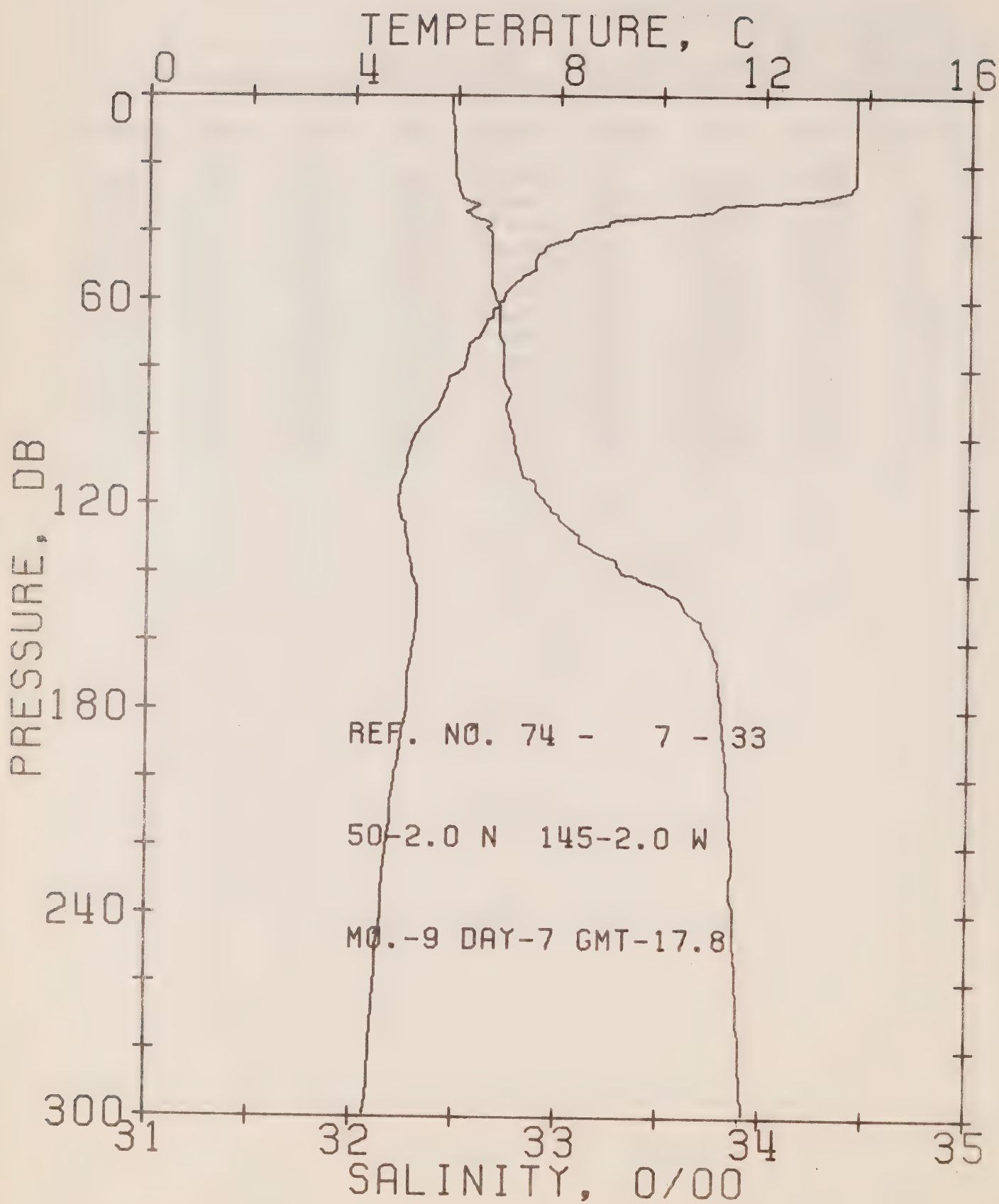
REFERENCE NO. 74- 7- 32

DATE 5/ 9/74

POSITION 50- 3.0N, 145- 8.0W GMT 17.8

RESULTS OF STP CAST 150 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.81	32.59	0	24.39	354.8	0.0	0.0	1501.
10	13.81	32.58	10	24.38	356.1	0.36	0.02	1501.
20	13.81	32.59	20	24.39	355.5	0.71	0.07	1501.
30	11.67	32.68	30	24.87	309.6	1.05	0.16	1494.
50	7.54	32.67	50	25.54	246.6	1.60	0.38	1479.
75	5.93	32.73	75	25.79	222.2	2.18	0.75	1473.
100	5.03	32.81	99	25.96	206.3	2.71	1.22	1470.
125	5.03	33.20	124	26.27	177.3	3.20	1.78	1471.
150	5.18	33.63	149	26.60	146.6	3.60	2.34	1472.
175	5.12	33.78	174	26.72	135.4	3.95	2.92	1473.
200	4.87	33.81	199	26.77	130.6	4.28	3.55	1472.
225	4.63	33.93	223	26.82	126.4	4.60	4.25	1472.
250	4.64	33.87	248	26.85	124.0	4.92	5.01	1472.



OFFSHORE OCEANOGRAPHY GROUP

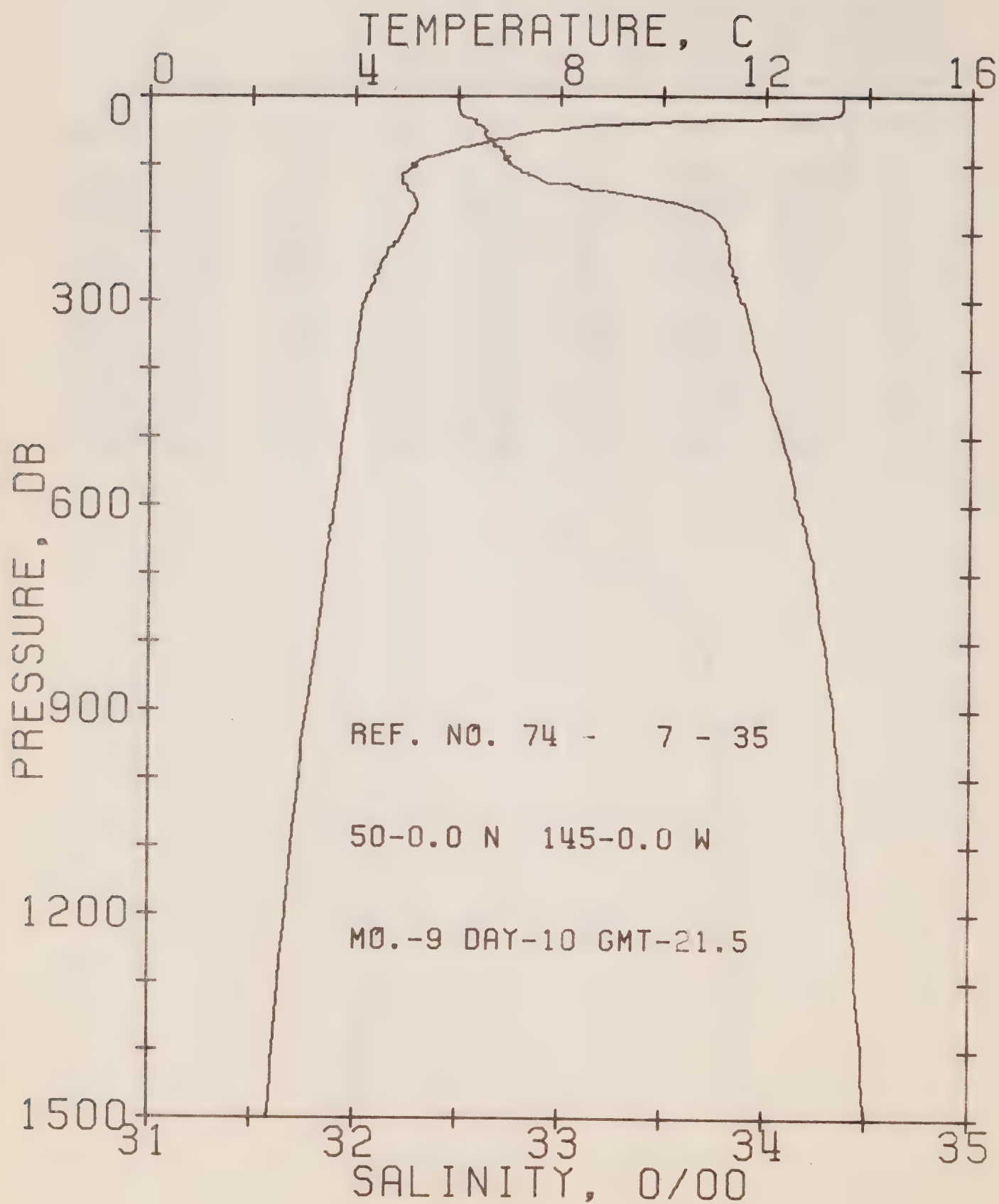
REFERENCE NO. 74- 7- 33

DATE 7/ 9/74

POSITION 50- 2.0N, 145- 2.0W GMT 17.8

RESULTS OF STP CAST 136 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.75	32.47	0	24.31	362.6	0.0	0.0	1500.
10	13.75	32.48	10	24.32	362.4	0.36	0.02	1500.
20	13.76	32.49	20	24.32	362.1	0.72	0.07	1501.
30	13.08	32.52	30	24.48	346.9	1.08	0.17	1499.
50	7.52	32.67	50	25.54	246.4	1.63	0.38	1479.
75	6.22	32.73	75	25.76	225.7	2.22	0.76	1474.
100	5.17	32.78	99	25.92	210.1	2.76	1.24	1470.
125	5.00	33.02	124	26.13	190.5	3.27	1.82	1470.
150	5.26	33.61	149	26.57	149.2	3.69	2.42	1473.
175	5.07	33.79	174	26.73	134.1	4.04	2.99	1473.
200	4.82	33.83	199	26.79	128.6	4.37	3.62	1472.
225	4.64	33.96	223	26.84	124.6	4.69	4.30	1472.
250	4.49	33.87	248	26.86	122.3	5.00	5.05	1471.



OFFSHORE OCEANOGRAPHY GROUP

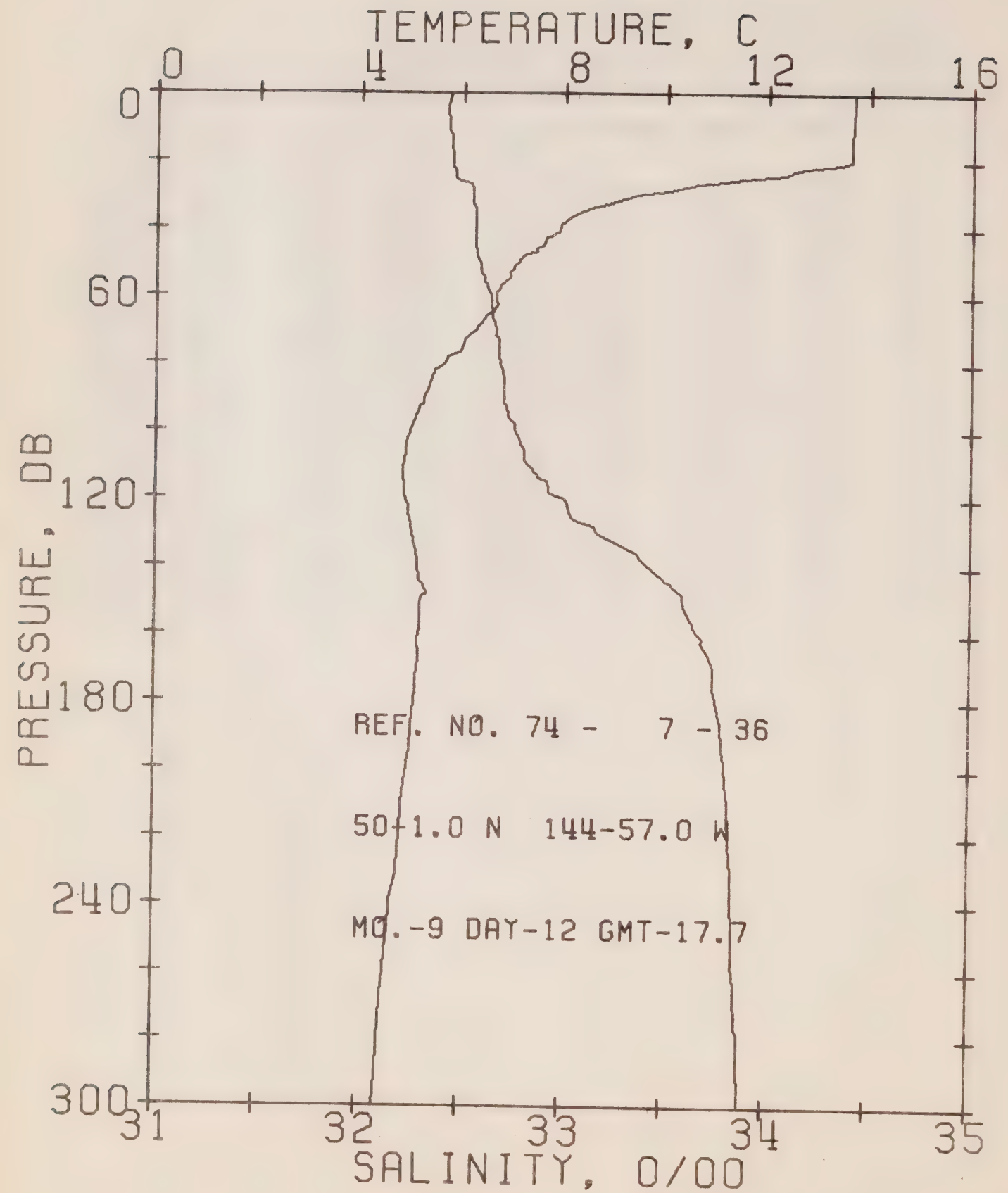
REFERENCE NO. 74- 7- 35

DATE 10/ 9/74

POSITION 50- 0.0N, 145- 0.0W GMT 21.5

RESULTS OF STD CAST 237 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.50	32.52	0	24.40	354.0	0.0	0.0	1499.
10	13.50	32.50	10	24.38	355.9	0.36	0.02	1500.
20	13.47	32.50	20	24.39	355.6	0.71	0.07	1500.
30	13.14	32.53	30	24.48	347.4	1.07	0.16	1499.
50	7.64	32.64	50	25.50	250.2	1.63	0.39	1479.
75	6.02	32.71	75	25.77	224.7	2.23	0.77	1473.
100	5.08	32.76	99	25.92	210.6	2.77	1.25	1470.
125	4.91	32.92	124	26.06	197.0	3.28	1.84	1470.
150	5.17	33.44	149	26.45	161.2	3.73	2.46	1472.
175	5.05	33.74	174	26.70	137.6	4.10	3.07	1472.
200	4.90	33.80	199	26.76	131.7	4.43	3.71	1472.
225	4.62	33.82	223	26.81	127.4	4.76	4.41	1472.
250	4.47	33.84	248	26.84	124.8	5.07	5.18	1471.
300	4.18	33.98	298	26.90	118.9	5.68	6.88	1471.
400	3.97	33.98	397	27.00	109.9	6.82	10.94	1472.
500	3.76	34.08	496	27.11	100.7	7.87	15.75	1473.
600	3.59	34.17	595	27.19	93.6	8.84	21.19	1474.
800	3.26	34.30	793	27.32	81.9	10.59	33.60	1476.
1000	2.91	34.37	990	27.41	74.1	12.14	47.79	1478.
1200	2.67	34.42	1188	27.48	68.6	13.56	63.69	1480.



OFFSHORE OCEANOGRAPHY GROUP

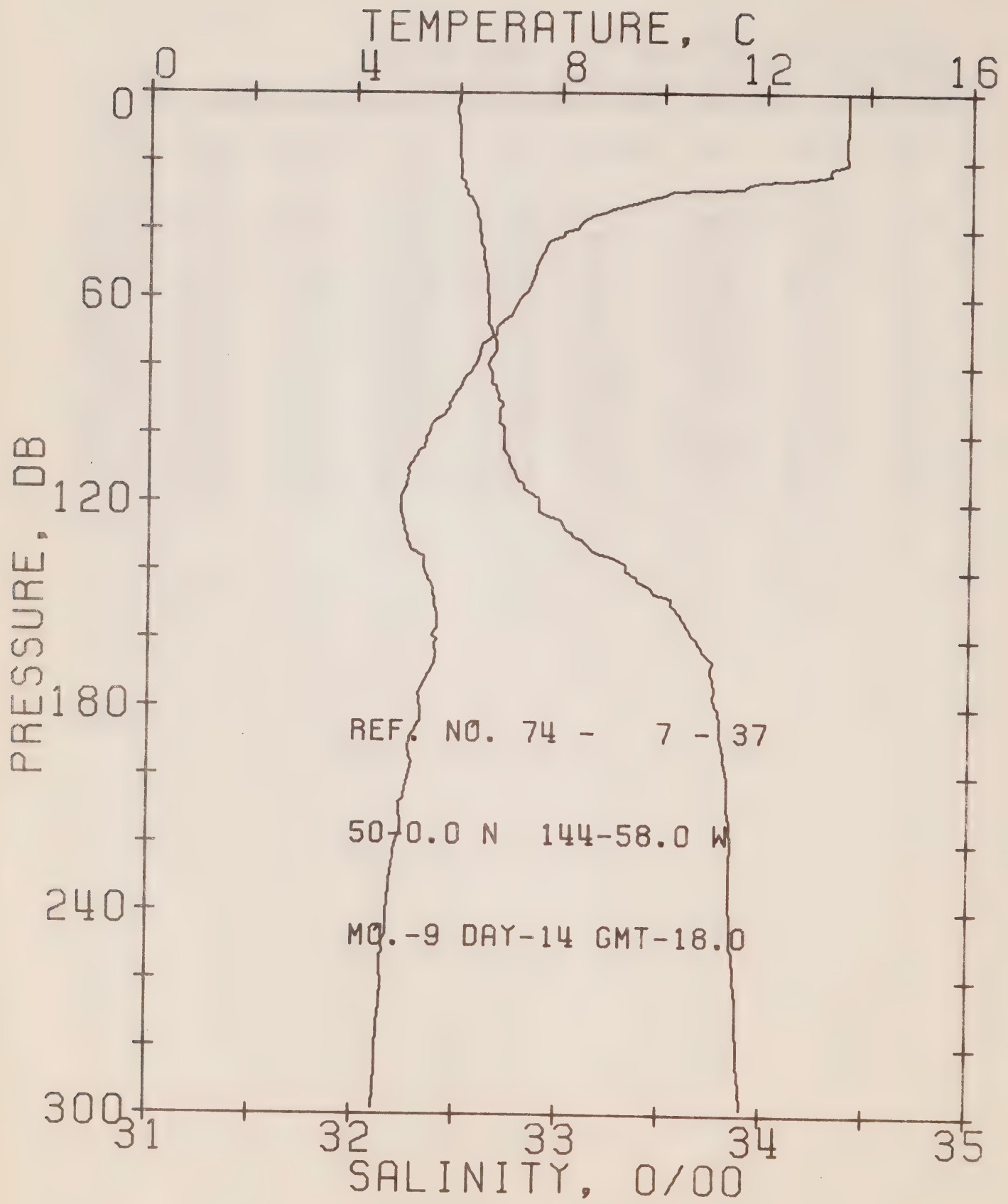
REFERENCE NO. 74- 7- 36

DATE 12/ 9/74

POSITION 50- 1.0N, 144-57.0W GMT 17.7

RESULTS OF STD CAST 149 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.67	32.44	0	24.30	363.2	0.0	0.0	1500.
10	13.65	32.43	10	24.30	364.0	0.36	0.02	1500.
20	13.63	32.45	20	24.32	362.4	0.73	0.07	1500.
30	9.42	32.55	30	25.16	282.3	1.05	0.16	1486.
50	7.09	32.58	50	25.53	247.2	1.57	0.37	1477.
75	6.01	32.68	75	25.75	226.9	2.16	0.74	1473.
100	4.99	32.76	99	25.93	209.6	2.71	1.23	1470.
125	4.98	33.04	124	26.15	188.8	3.21	1.80	1470.
150	5.19	33.59	149	26.56	150.2	3.63	2.38	1472.
175	5.13	33.74	174	26.69	138.5	3.98	2.98	1473.
200	4.96	33.90	199	26.76	132.2	4.32	3.62	1473.
225	4.80	33.83	223	26.80	128.3	4.65	4.32	1472.
250	4.60	33.85	248	26.83	125.1	4.96	5.09	1472.
300	4.34	33.89	298	26.89	119.8	5.57	6.80	1472.



OFFSHORE OCEANOGRAPHY GROUP

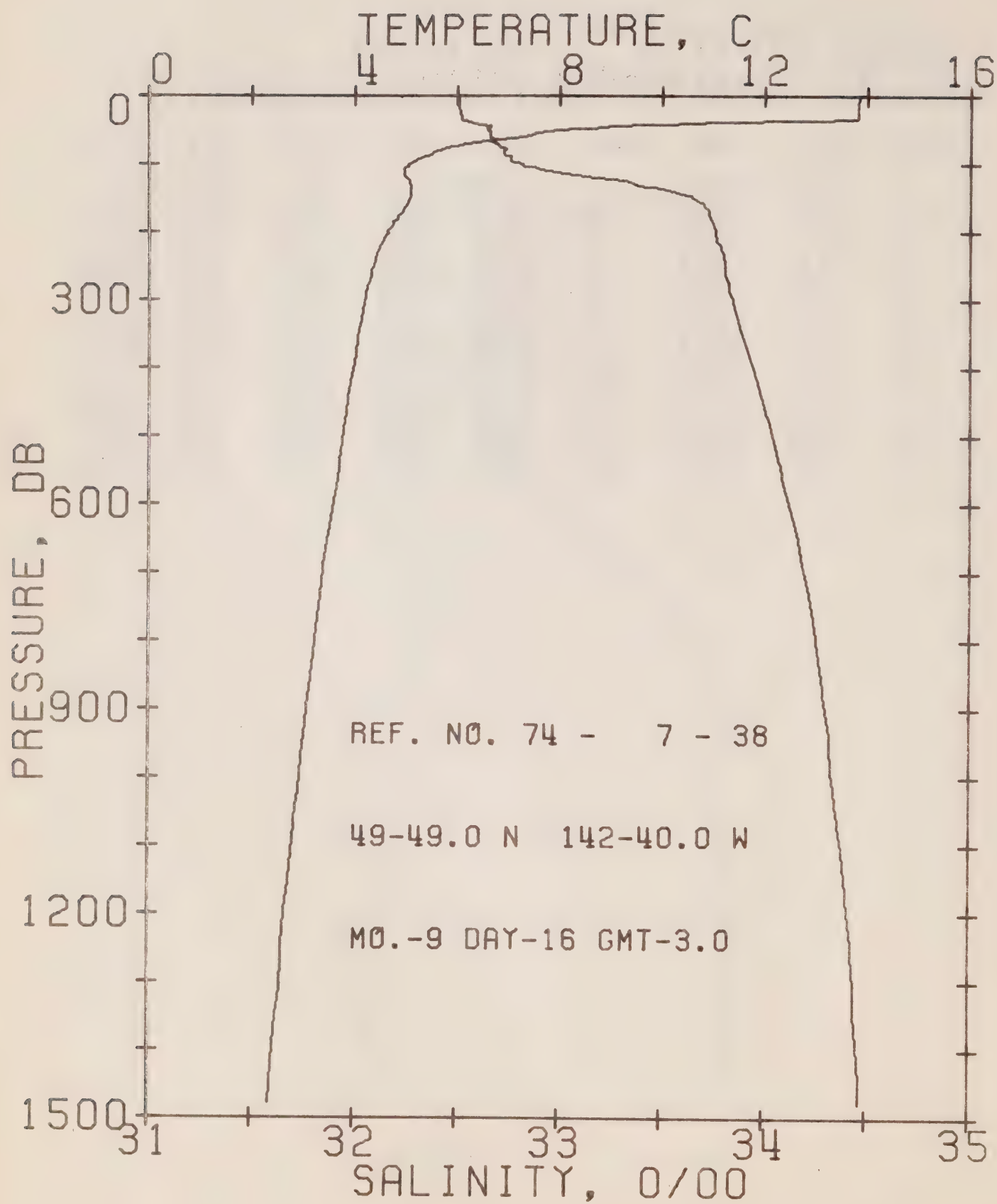
REFERENCE NO. 74- 7- 37

DATE 14/ 9/74

POSITION 50- 0.0N, 144-58.0W GMT 18.0

RESULTS OF STP CAST 157 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.56	32.50	0	24.37	356.7	0.0	0.0	1500.
10	13.56	32.50	10	24.37	357.2	0.36	0.02	1500.
20	13.56	32.51	20	24.38	356.6	0.71	0.07	1500.
30	10.03	32.54	30	25.05	292.5	1.05	0.16	1488.
50	7.55	32.63	50	25.50	250.1	1.57	0.37	1479.
75	6.44	32.69	75	25.70	231.3	2.18	0.76	1475.
100	5.45	32.73	99	25.85	216.9	2.74	1.26	1471.
125	4.96	33.01	124	26.13	190.8	3.26	1.85	1470.
150	5.57	33.55	149	26.49	157.5	3.70	2.46	1474.
175	5.29	33.76	174	26.68	139.0	4.07	3.07	1473.
200	5.07	33.82	199	26.76	131.9	4.41	3.72	1473.
225	4.78	33.84	223	26.81	127.7	4.73	4.42	1472.
250	4.60	33.85	248	26.83	125.2	5.05	5.19	1472.



OFFSHORE OCEANOGRAPHY GROUP

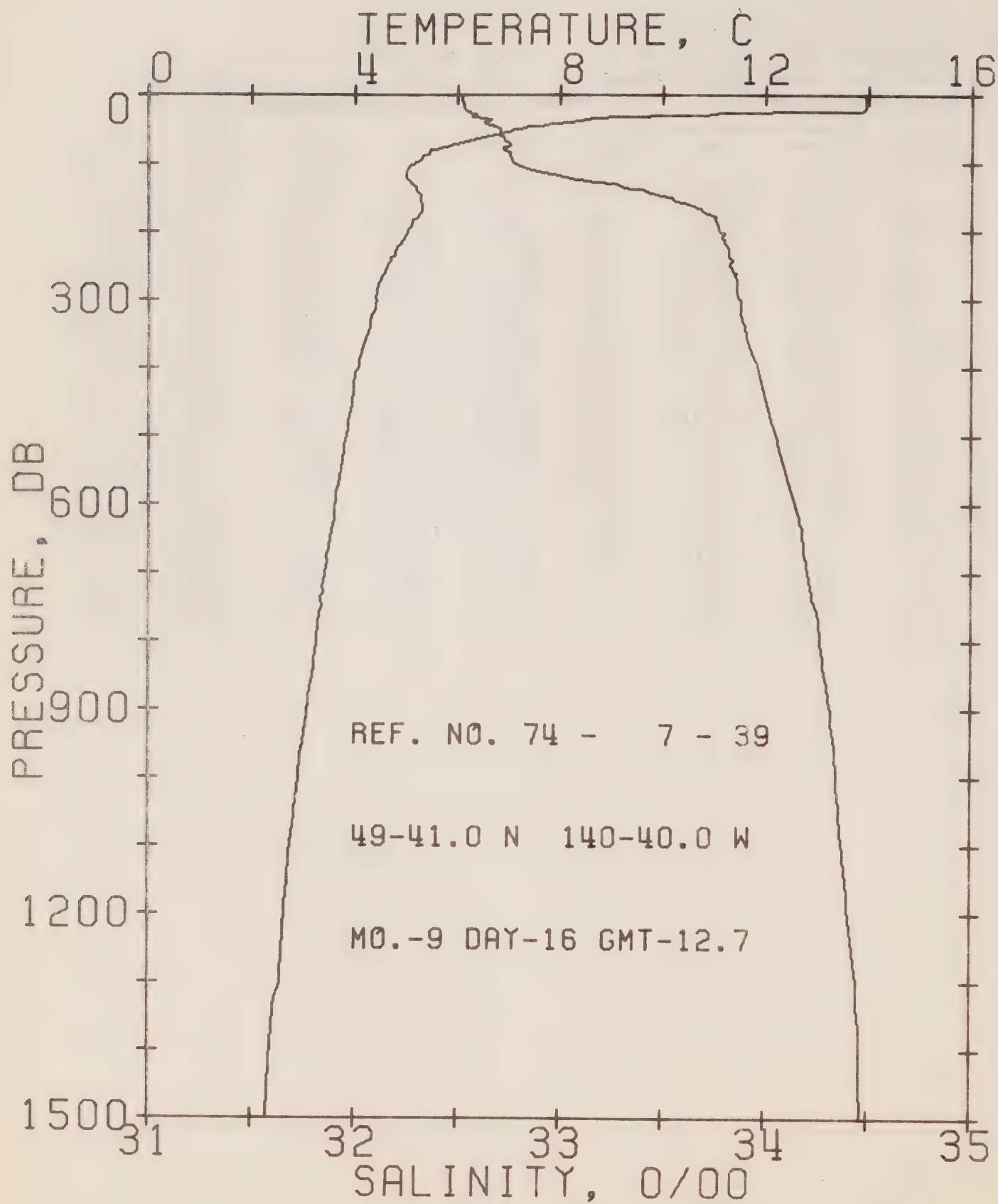
REFERENCE NO. 74- 7- 38

DATE 16/ 9/74

POSITION 49-49.0N, 142-40.0W GMT 3.0

RESULTS OF STD CAST 155 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.84	32.50	0	24.31	362.1	0.0	0.0	1501.
10	13.81	32.51	10	24.33	361.2	0.36	0.02	1501.
20	13.81	32.51	20	24.33	361.4	0.72	0.07	1501.
30	13.81	32.52	30	24.33	361.1	1.08	0.17	1501.
50	7.89	32.65	50	25.47	252.6	1.69	0.41	1480.
75	5.86	32.71	75	25.79	222.5	2.29	0.79	1473.
100	5.06	32.82	99	25.97	205.9	2.82	1.26	1470.
125	5.06	33.35	124	26.39	166.4	3.30	1.81	1471.
150	5.07	33.66	149	26.63	143.9	3.69	2.35	1472.
175	4.85	33.73	174	26.71	136.1	4.03	2.92	1472.
200	4.65	33.76	199	26.76	132.0	4.37	3.56	1471.
225	4.46	33.79	223	26.80	127.8	4.69	4.27	1471.
250	4.36	33.81	248	26.83	125.6	5.01	5.03	1471.
300	4.20	33.85	298	26.88	121.3	5.63	6.77	1471.
400	3.97	33.95	397	26.98	112.3	6.80	10.94	1472.
500	3.77	34.04	496	27.07	104.2	7.88	15.88	1473.
600	3.59	34.12	595	27.16	96.8	8.89	21.52	1474.
800	3.22	34.25	793	27.29	84.8	10.69	34.32	1476.
1000	2.92	34.33	990	27.38	76.8	12.29	49.03	1478.
1200	2.65	34.41	1188	27.47	69.2	13.75	65.33	1480.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 7- 39

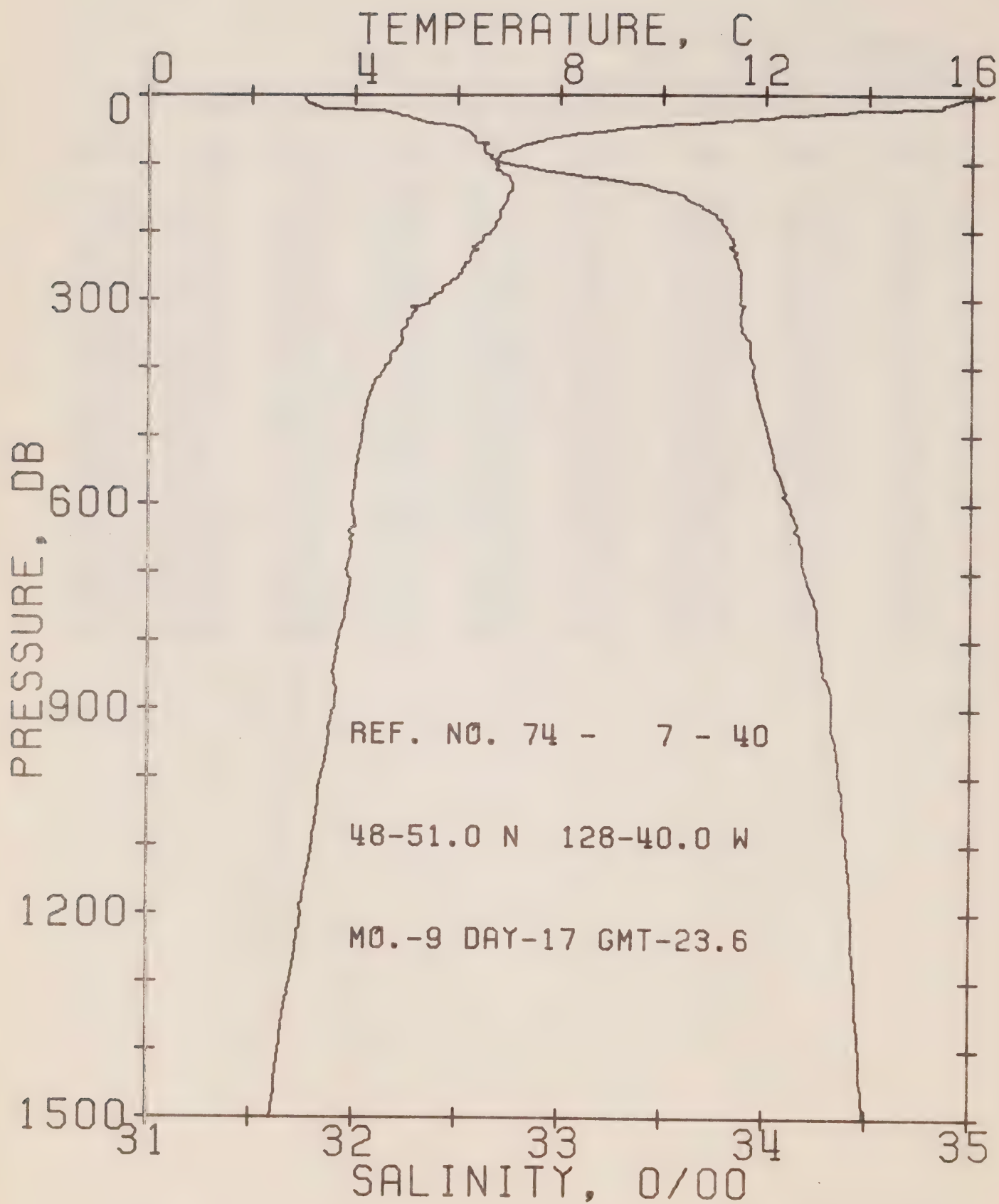
DATE 16/ 9/74

POSITION 49-41.0N, 140-40.0W

GMT 12.7

RESULTS OF STP CAST 200 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.94	32.53	0	24.32	361.8	0.0	0.0	1501.
10	13.94	32.52	10	24.31	362.7	0.36	0.02	1501.
20	13.93	32.54	20	24.32	362.0	0.73	0.07	1501.
30	9.91	32.58	30	25.10	287.7	1.05	0.16	1487.
50	7.13	32.71	50	25.62	238.3	1.57	0.36	1477.
75	5.82	32.74	75	25.82	220.2	2.14	0.73	1473.
100	5.16	32.78	99	25.92	210.0	2.67	1.21	1470.
125	5.06	33.12	124	26.20	183.6	3.17	1.77	1471.
150	5.29	33.52	149	26.50	156.2	3.59	2.36	1473.
175	5.25	33.74	174	26.67	139.9	3.96	2.97	1473.
200	5.02	33.78	199	26.73	134.6	4.30	3.62	1473.
225	4.81	33.82	223	26.79	129.5	4.63	4.34	1472.
250	4.63	33.83	248	26.81	127.0	4.95	5.12	1472.
300	4.43	33.88	298	26.88	121.5	5.57	6.85	1472.
400	4.05	33.96	397	26.98	112.2	6.75	11.04	1472.
500	3.83	34.05	496	27.08	103.7	7.83	15.98	1473.
600	3.61	34.15	595	27.17	95.2	8.82	21.55	1474.
800	3.24	34.27	793	27.30	83.6	10.61	34.24	1476.
1000	2.90	34.35	990	27.40	75.3	12.19	48.74	1478.
1200	2.64	34.40	1188	27.47	69.6	13.64	64.94	1480.



OFFSHORE OCEANOGRAPHY GROUP

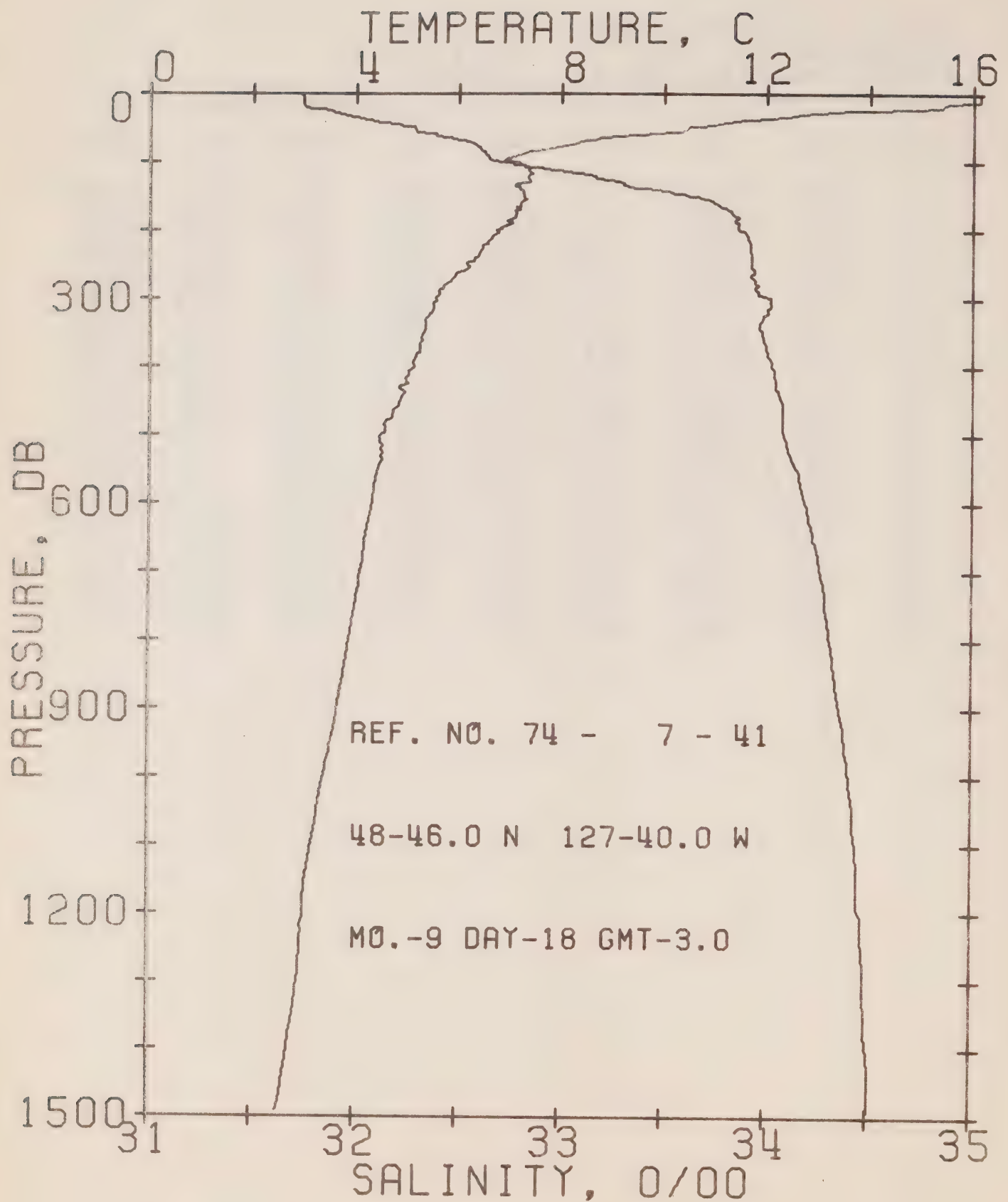
REFERENCE NO. 74- 7- 40

DATE 17/ 9/74

POSITION 48-51.0N, 128-40.0W GMT 23.6

RESULTS OF STD CAST 292 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	16.30	31.75	0	23.21	467.5	0.0	0.0	1508.
10	15.67	31.77	10	23.36	453.1	0.46	0.02	1506.
20	15.37	31.95	20	23.57	433.9	0.91	0.09	1505.
30	12.32	32.25	30	24.42	352.8	1.29	0.19	1496.
50	9.08	32.54	50	25.21	278.2	1.92	0.44	1485.
75	7.21	32.63	75	25.55	245.6	2.57	0.85	1478.
100	6.72	32.73	99	25.69	232.2	3.16	1.39	1477.
125	7.04	33.27	124	26.07	196.7	3.70	2.00	1479.
150	6.95	33.61	149	26.35	170.3	4.16	2.64	1479.
175	6.83	33.75	174	26.49	158.3	4.57	3.32	1480.
200	6.63	33.31	199	26.56	151.7	4.95	4.05	1479.
225	6.34	33.84	224	26.62	146.2	5.32	4.86	1479.
250	6.12	33.87	248	26.67	141.6	5.68	5.73	1478.
300	5.44	33.88	298	26.76	133.1	6.37	7.66	1476.
400	4.58	33.95	397	26.91	119.1	7.63	12.13	1474.
500	4.13	34.01	496	27.01	110.0	8.77	17.37	1474.
600	3.95	34.12	595	27.12	101.0	9.83	23.30	1475.
800	3.68	34.26	793	27.26	89.0	11.73	36.83	1478.
1000	3.36	34.36	991	27.37	79.3	13.41	52.20	1480.
1200	2.98	34.42	1188	27.45	72.1	14.92	69.05	1481.



OFFSHORE OCEANOGRAPHY GROUP

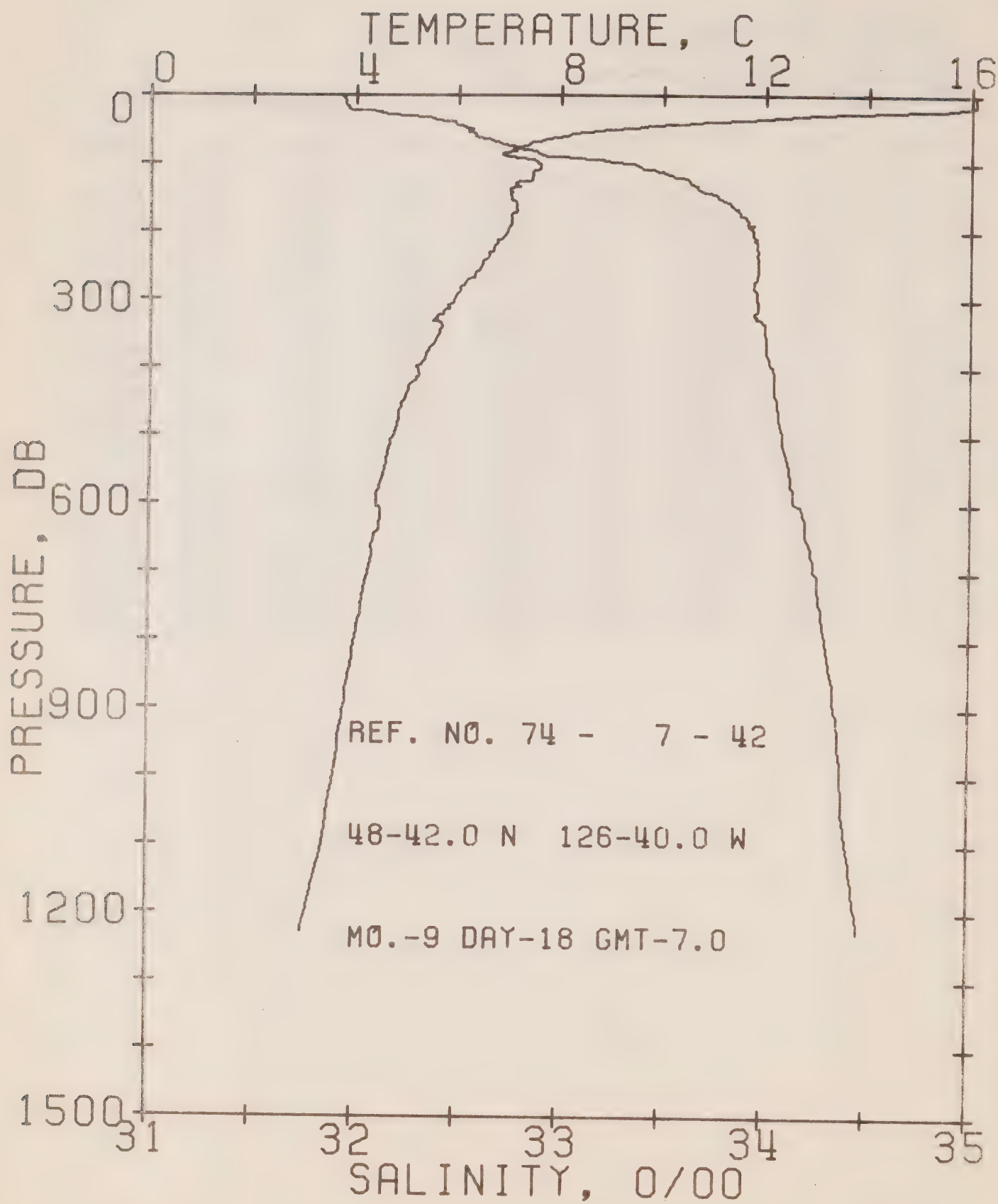
REFERENCE NO. 74- 7- 41

DATE 18/ 9/74

POSITION 48-46.0N, 127-40.0W GMT 3.0

RESULTS OF STD CAST 302 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	16.13	31.73	0	23.23	465.3	0.0	0.0	1507.
10	16.14	31.74	10	23.24	465.2	0.47	0.02	1507.
20	15.14	31.76	20	23.47	443.1	0.92	0.09	1504.
30	12.60	31.94	30	24.13	380.3	1.33	0.20	1496.
50	10.46	32.28	50	24.78	319.0	2.02	0.48	1489.
75	8.09	32.59	75	25.39	260.5	2.74	0.93	1481.
100	7.10	32.72	99	25.64	237.8	3.36	1.48	1478.
125	7.38	33.23	124	26.00	203.9	3.92	2.12	1480.
150	7.28	33.64	149	26.34	172.1	4.39	2.78	1481.
175	7.11	33.84	174	26.51	155.9	4.79	3.45	1481.
200	6.77	33.89	199	26.60	147.7	5.18	4.18	1480.
225	6.45	33.92	224	26.67	141.7	5.54	4.96	1479.
250	6.15	33.93	248	26.71	137.5	5.89	5.81	1478.
300	5.56	34.02	298	26.86	124.1	6.55	7.66	1477.
400	5.15	34.03	397	26.91	119.5	7.78	12.06	1477.
500	4.51	34.09	496	27.03	108.6	8.92	17.26	1476.
600	4.33	34.19	595	27.14	99.8	9.96	23.10	1477.
800	3.89	34.31	793	27.28	87.7	11.82	36.35	1479.
1000	3.40	34.41	991	27.40	76.7	13.47	51.39	1480.
1200	3.00	34.46	1188	27.48	69.3	14.92	67.63	1482.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 7- 42

DATE 18/ 9/74

POSITION 48-42.0N, 126-40.0W GMT 7.0

RESULTS OF STP CAST 287 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	16.07	31.93	0	23.40	449.3	0.0	0.0	1507.
10	16.08	31.95	10	23.41	448.7	0.45	0.02	1507.
20	15.55	31.97	20	23.54	436.2	0.90	0.09	1506.
30	12.49	32.30	30	24.43	352.4	1.29	0.19	1496.
50	8.89	32.57	50	25.26	273.2	1.91	0.44	1484.
75	7.25	32.79	75	25.67	234.2	2.54	0.84	1478.
100	7.57	33.34	99	26.06	197.6	3.09	1.33	1481.
125	7.37	33.63	124	26.31	174.0	3.55	1.86	1481.
150	7.06	33.78	149	26.47	159.2	3.96	2.44	1480.
175	7.05	33.88	174	26.55	151.8	4.35	3.08	1481.
200	6.94	33.94	199	26.62	146.4	4.72	3.79	1481.
225	6.69	33.96	223	26.67	141.8	5.08	4.57	1480.
250	6.45	33.97	248	26.71	138.4	5.43	5.41	1480.
300	5.93	33.96	298	26.76	133.1	6.11	7.32	1478.
400	5.21	34.04	397	26.91	119.6	7.38	11.83	1477.
500	4.75	34.09	496	27.01	111.4	8.54	17.12	1477.
600	4.44	34.16	595	27.10	103.1	9.61	23.15	1477.
800	4.01	34.30	793	27.25	89.9	11.54	36.83	1479.
1000	3.60	34.38	991	27.36	81.0	13.23	52.38	1481.
1200	3.09	34.46	1188	27.47	70.6	14.76	69.50	1482.

BATHYTHERMOGRAPH OBSERVATIONS

(P-74-7)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030/ 13-04-74

48° 34' N.

125° 30' W.

0030 = Time in GMT

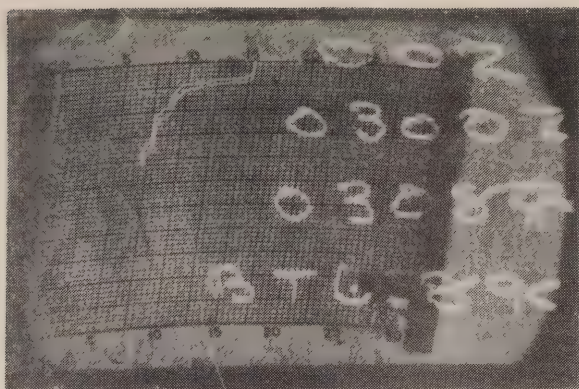
13 = Day

04 = Month

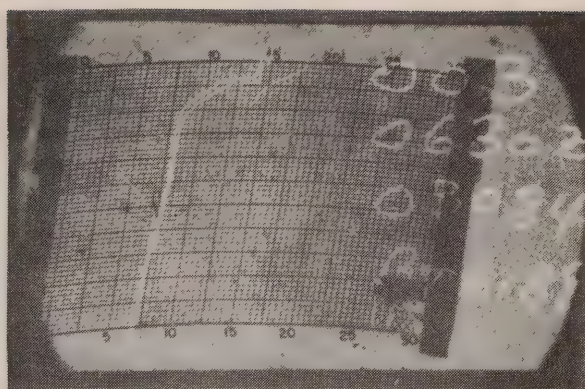
74 = Year

48° 34' N. = Latitude

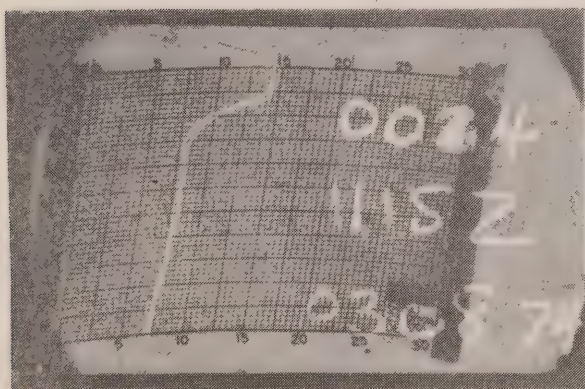
125° 30' W. = Longitude



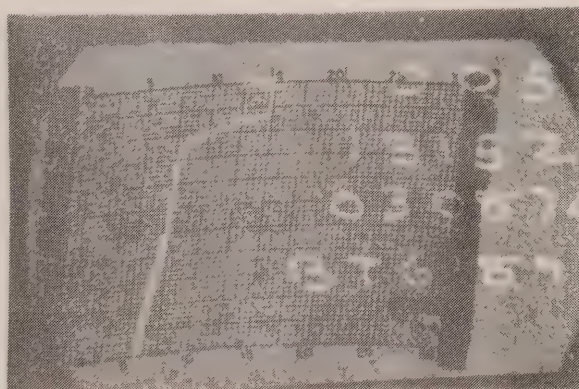
0300 / 03-08-74
 48° 38' N.
 126° 00' W.



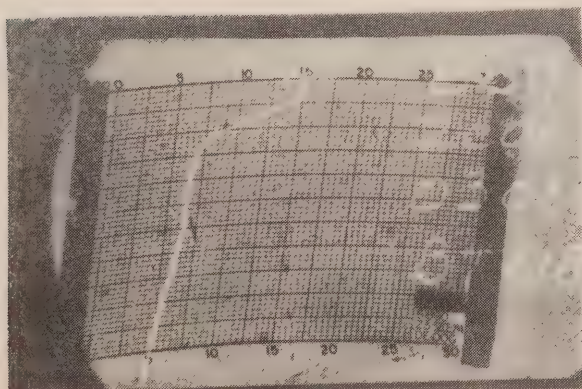
0630 / 03-08-74
 48° 42' N.
 126° 40' W.



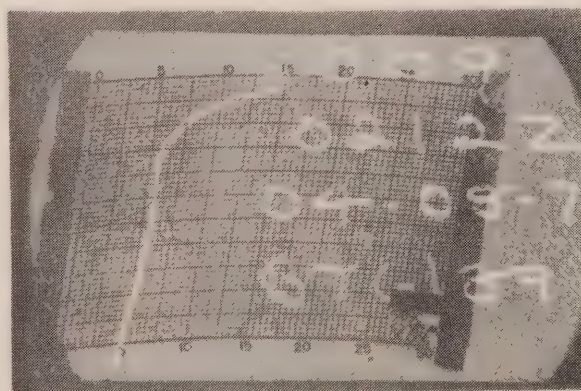
1115 / 03-08-74
 48° 46' N.
 127° 40' W.



1315 / 03-08-74
 49° 51' N.
 128° 40' W.



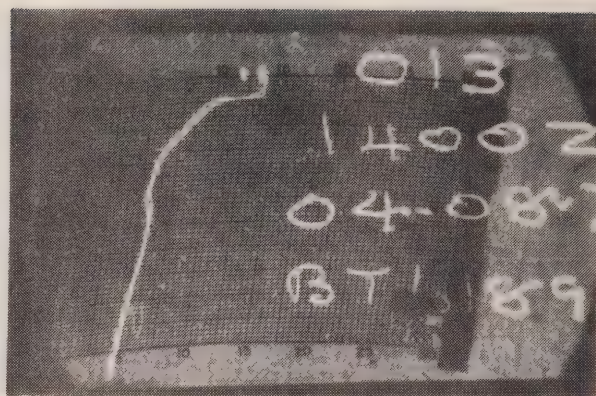
2000 / 03-08-74
 49° 02' N.
 130° 40' W.



0212 / 04-08-74
 49° 10' N.
 132° 40' W.



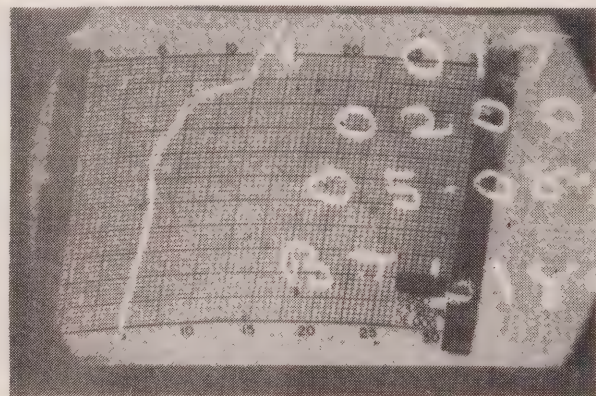
0812 / 04-08-74
 49° 17' N.
 134° 40' W.



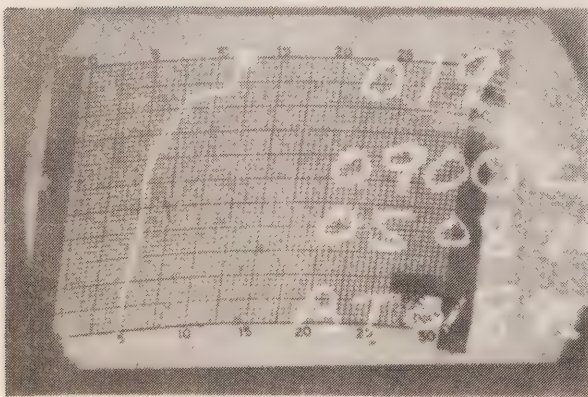
1400 / 04-08-74
 49° 26' N.
 136° 40' W.



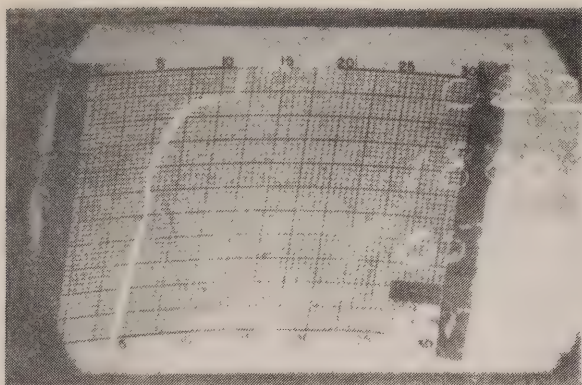
2018 / 04-08-74
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 138° 40' W.



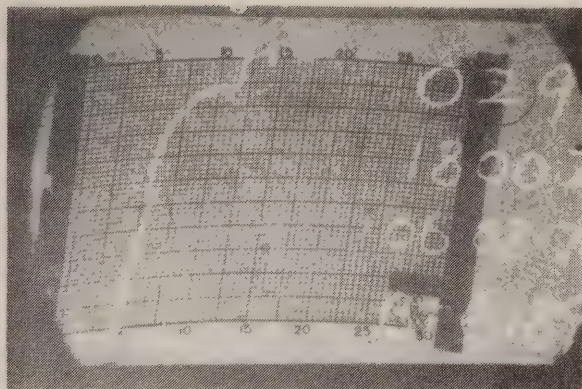
0200 / 05-08-74
 49° 41' N.
 140° 40' W.



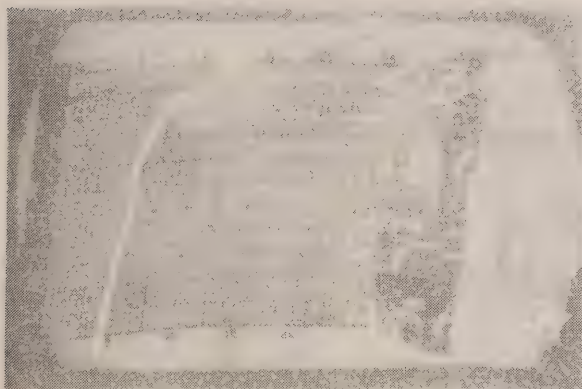
0900 / 05-08-74
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 142° 40' W.



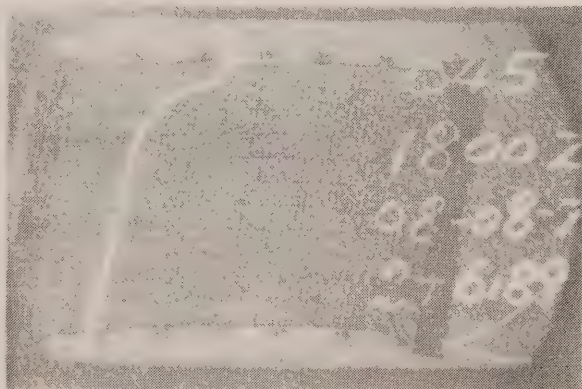
1800 / 05-08-74
 49° 57' N.
 145° 05' W.



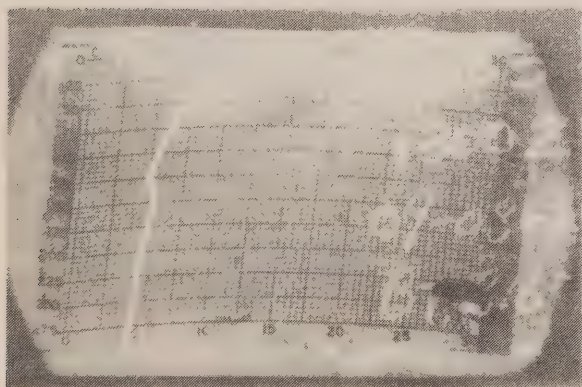
1800 / 06-08-74
 49° 58' N.
 145° 05' W.



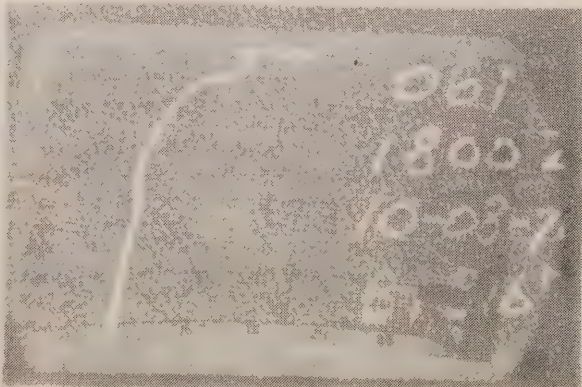
1800 / 07-08-74
 49° 58' N.
 145° 05' W.



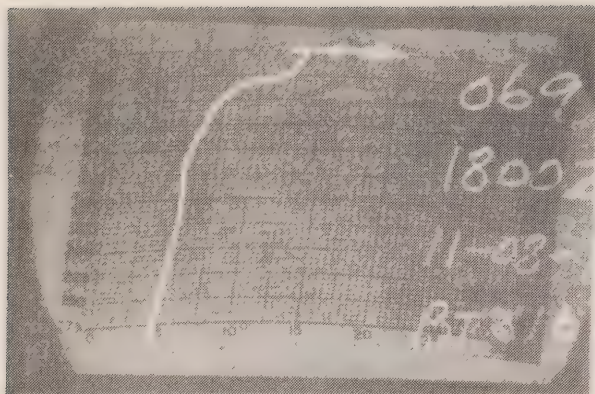
1800 / 08-08-74
 49° 57' N.
 145° 00' W.



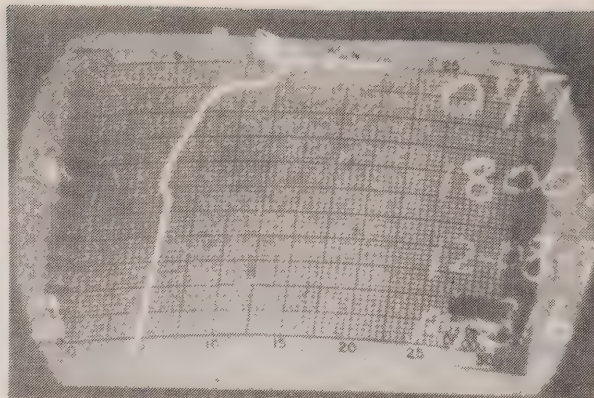
1800 / 09-08-74
 49° 55' N.
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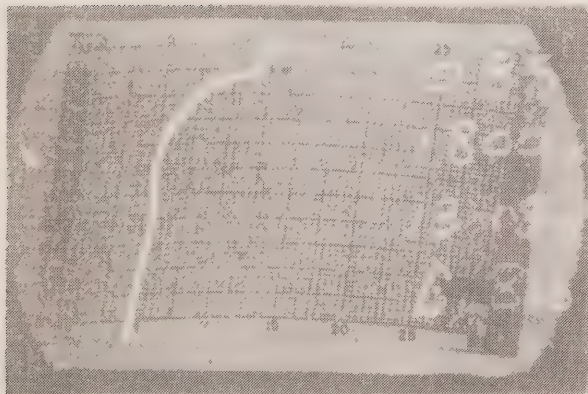
1800 / 10-08-74
 49° 55' N.
 145° 00' W.



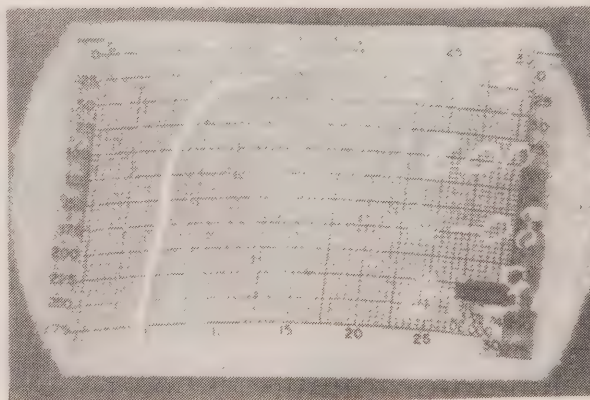
1800 / 11-08-74
 49° 58' N.
 144° 58' W.



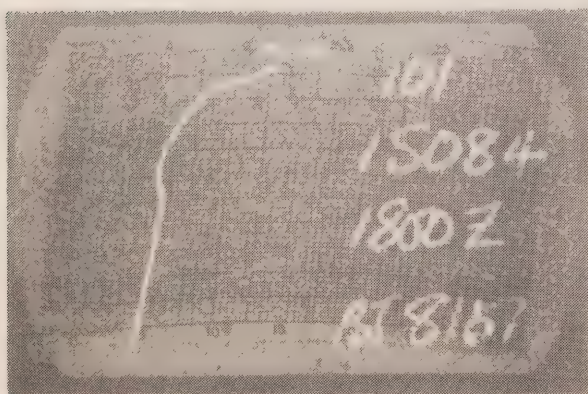
1800 / 12-08-74
 49° 57' N.
 144° 57' W.



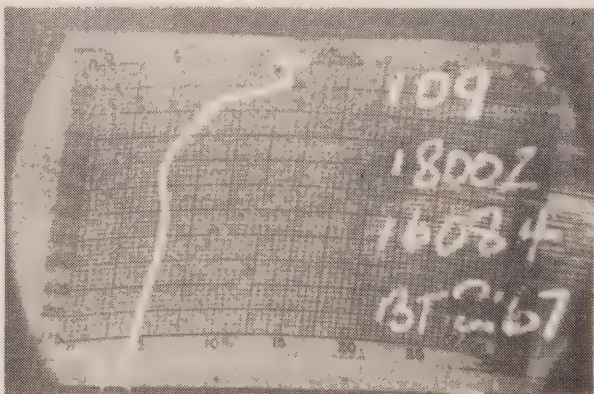
1800 / 13-08-74
 50° 02' N.
 145° 00' W.



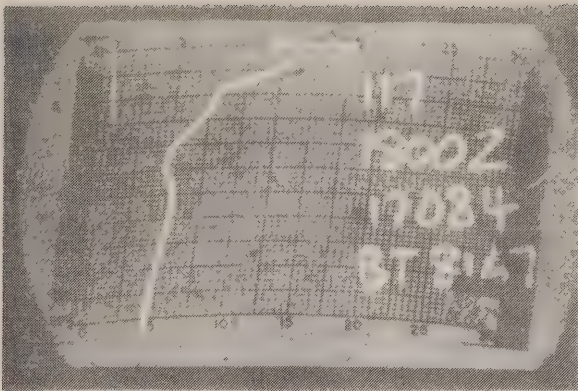
1800 / 14-08-74
 50° 04' N.
 145° 05' W.



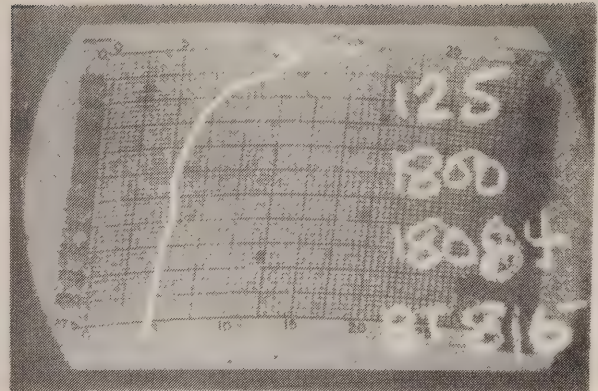
1800 / 15-08-74
 50° 00' N.
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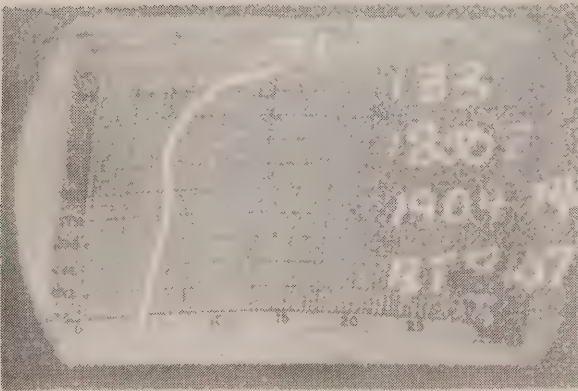
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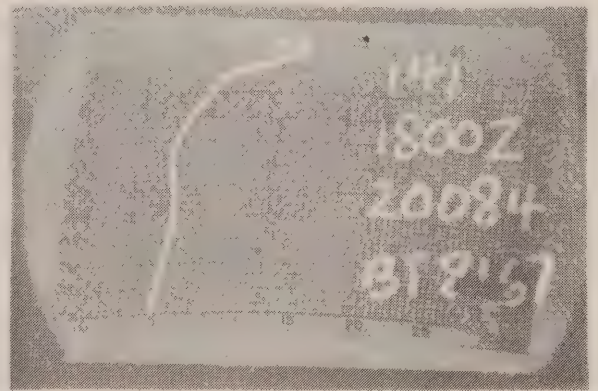
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 50° 00' N.
 145° 00' W.



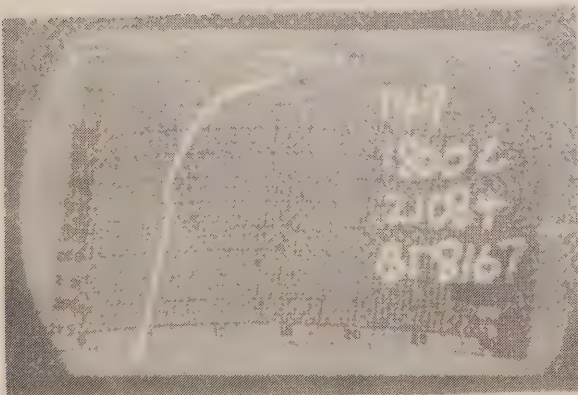
1800 / 18-08-74
 50° 00' N.
 145° 00' W.



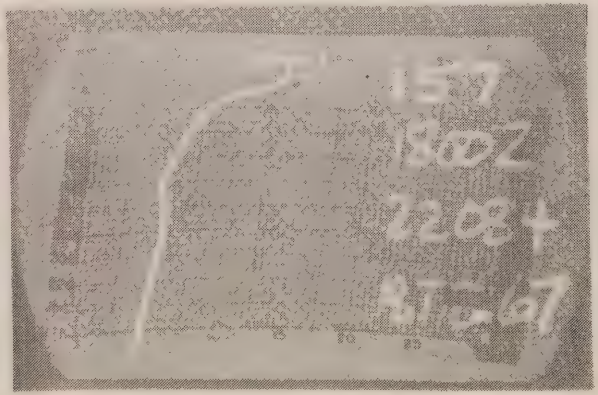
1800 / 19-08-74
 50° 00' N.
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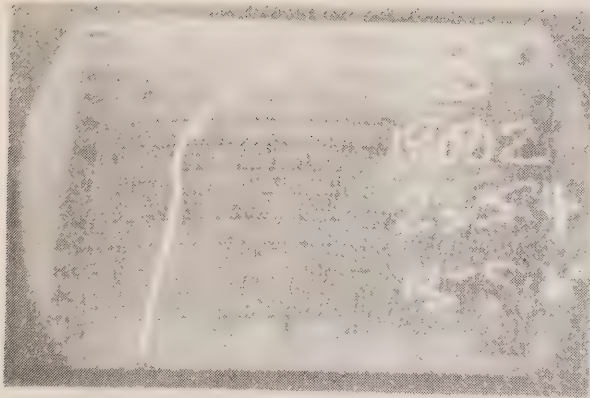
1800 / 20-08-74
 50° 00' N.
 145° 00' W.



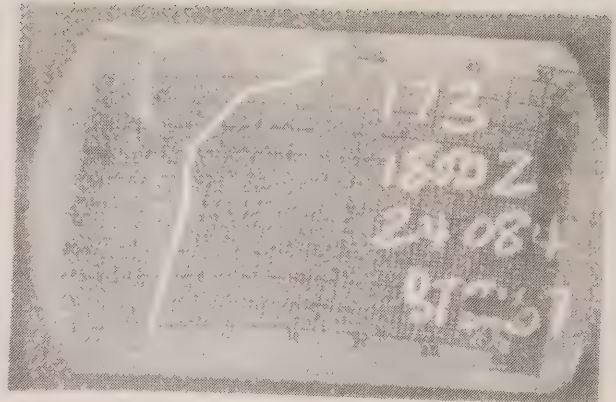
1800 / 21-08-74
 50° 00' N.
 145° 00' W.



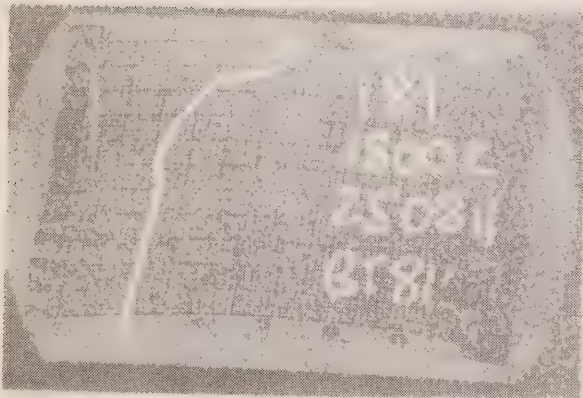
1800 / 22-08-74
 50° 00' N.
 145° 00' W.



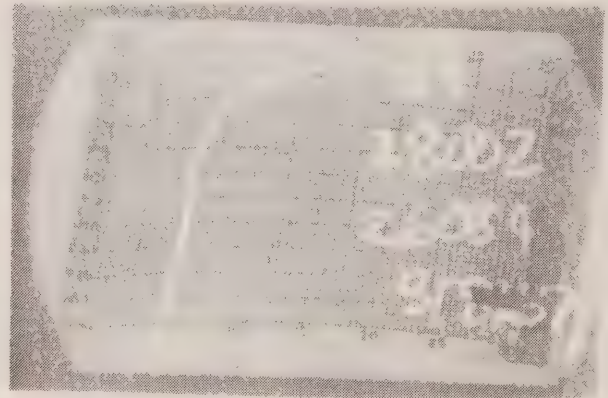
1800 / 23-08-74
 50° 00' N.
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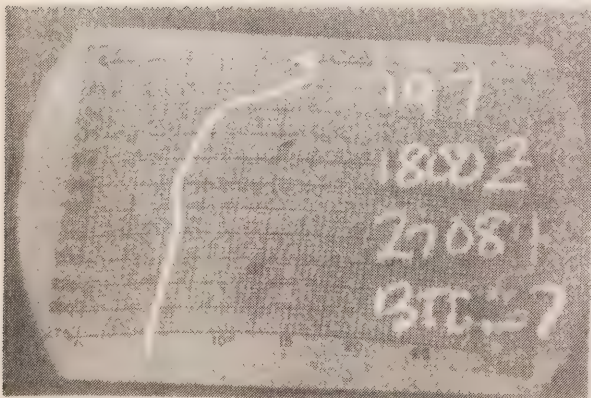
1800 / 24-08-74
 50° 00' N.
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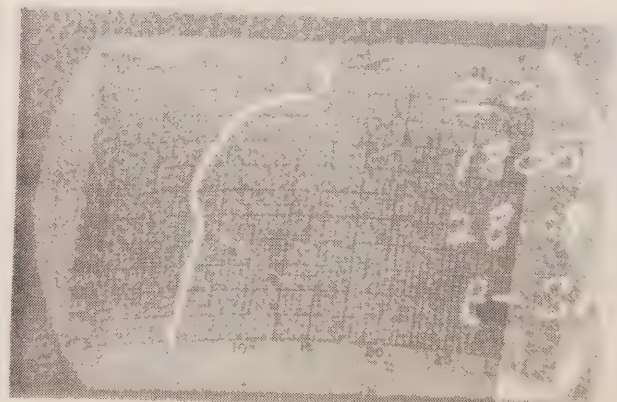
1800 / 25-08-74
 50° 00' N.
 145° 00' W.



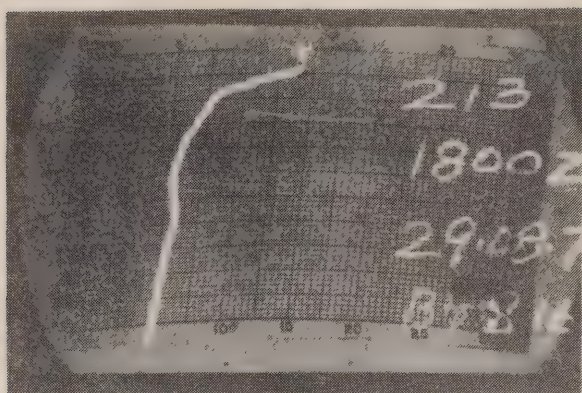
1800 / 26-08-74
 50° 00' N.
 145° 00' W.



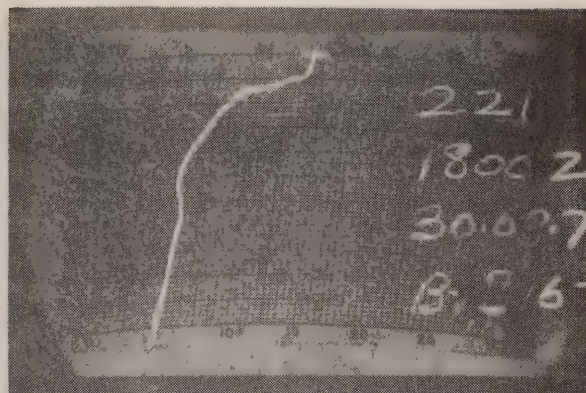
1800 / 27-08-74
 50° 00' N.
 145° 00' W.



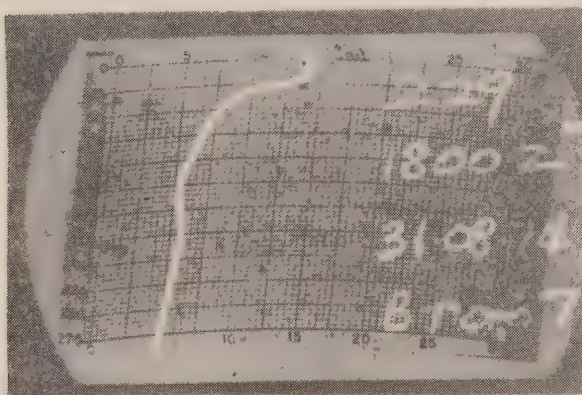
1800 / 28-08-74
 49° 55' N.
 144° 55' W.



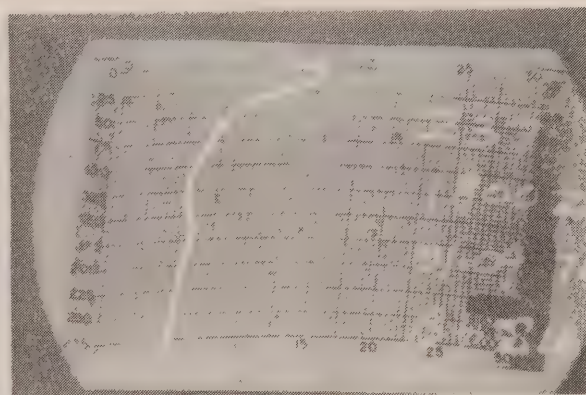
1800 / 29-08-74
 49° 56' N.
 144° 58' W.



1800 / 30-08-74
 49° 57' N.
 145° 00' W.



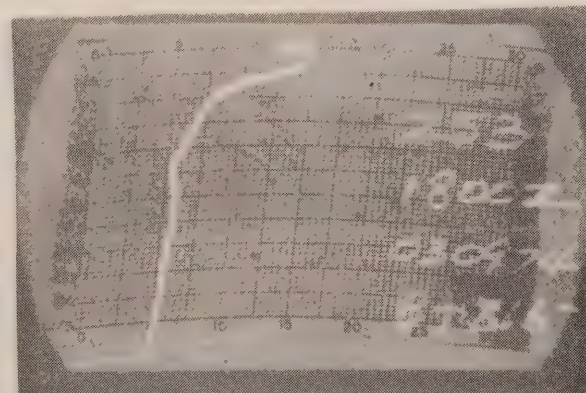
1800 / 31-08-74
 49° 57' N.
 145° 07' W.



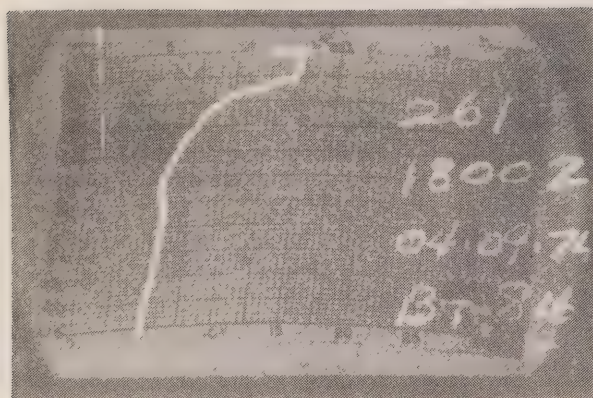
1800 / 01-09-74
 50° 00' N.
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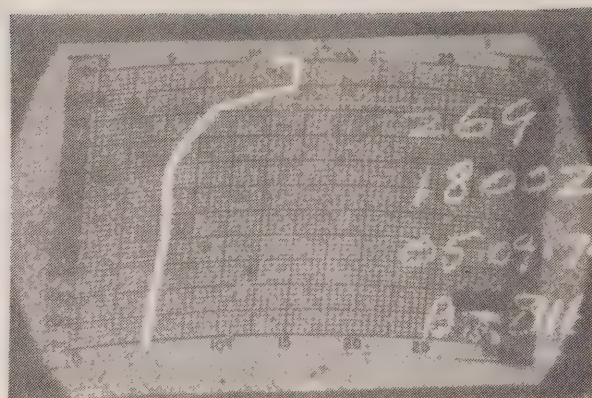
1800 / 02-09-74
 50° 04' N.
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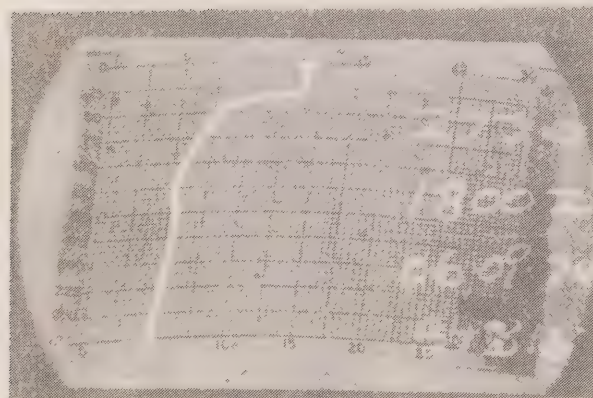
1800 / 03-09-74
 50° 05' N.
 145° 00' W.



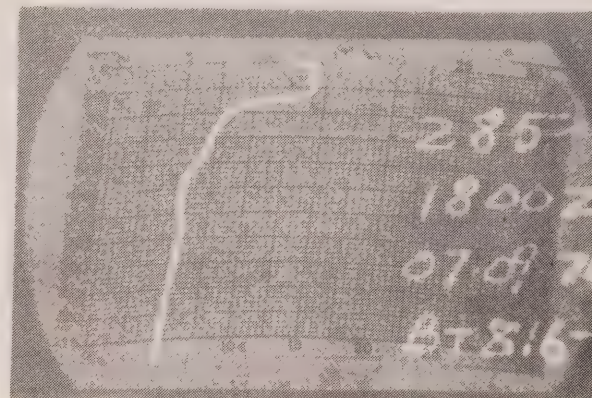
1800 / 04-09-74
 50° 03' N.
 145° 03' W.



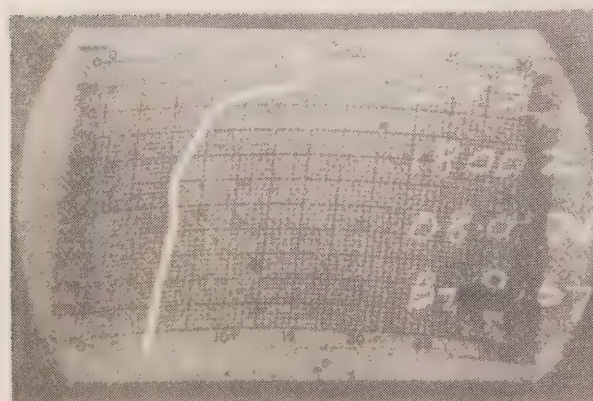
1800 / 05-09-74
 50° 03' N.
 145° 08' W.



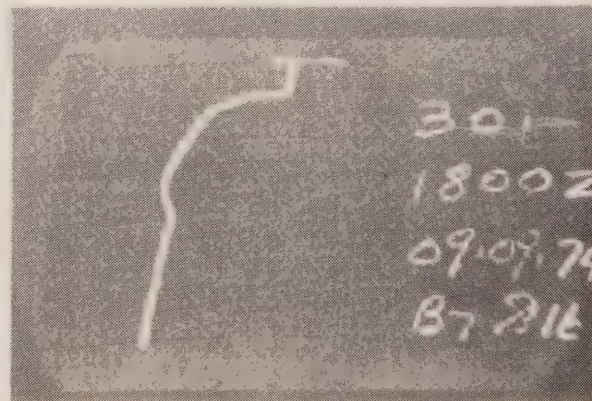
1800 / 06-09-74
 49° 51' N.
 145° 03' W.



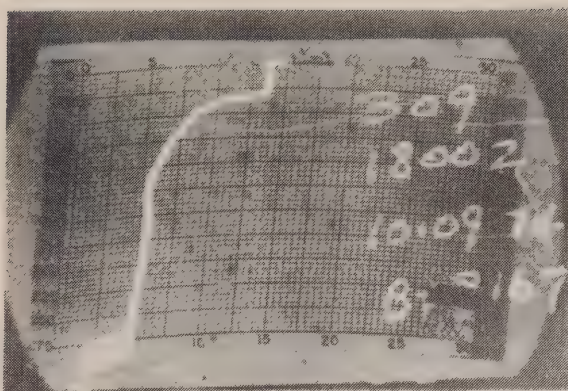
1800 / 07-09-74
 50° 02' N.
 145° 02' W.



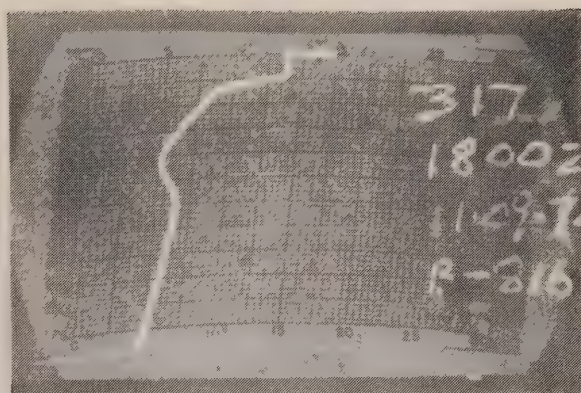
1800 / 08-09-74
 50° 05' N.
 145° 05' W.



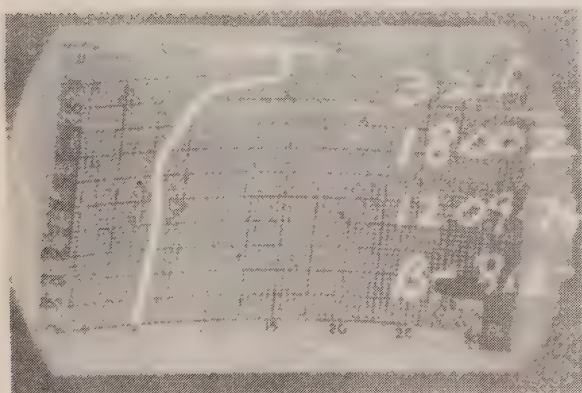
1800 / 09-09-74
 50° 00' N.
 144° 57' W.



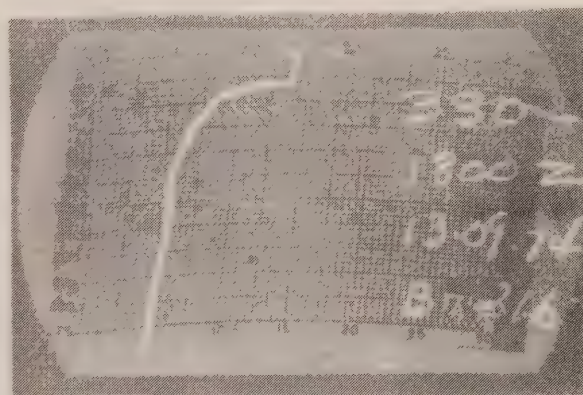
1800 / 10-09-74
 50° 01' N.
 145° 01' W.



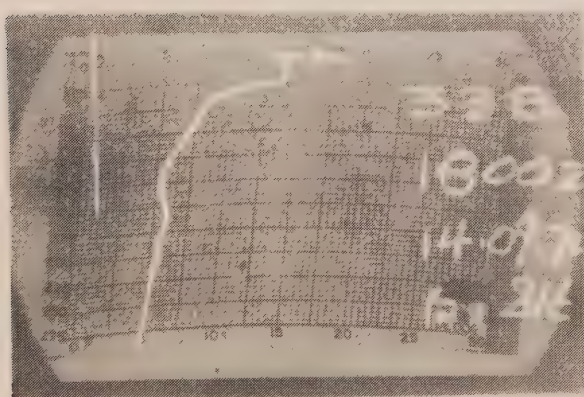
1800 / 11-09-74
 49° 59' N.
 144° 45' W.



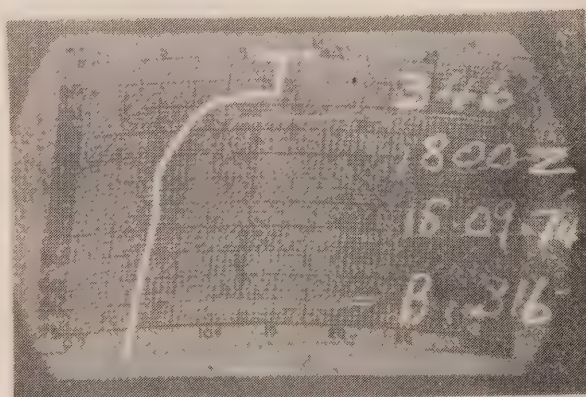
1800 / 12-09-74
 50° 01' N.
 144° 57' W.



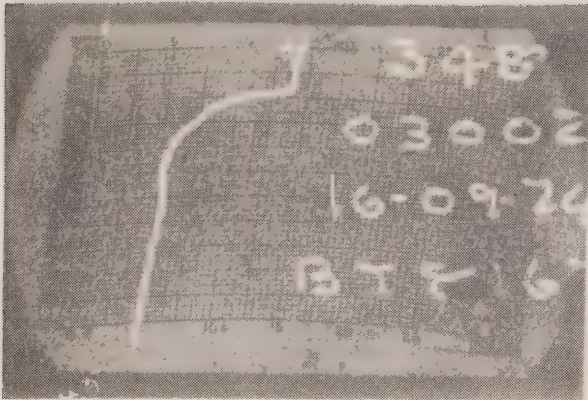
1800 / 13-09-74
 49° 56' N.
 144° 58' W.



1800 / 14-09-74
 50° 00' N.
 144° 58' W.



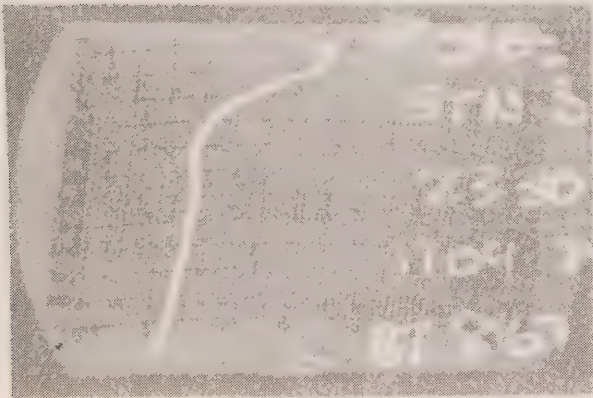
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 50° 00' N.
 145° 05' W.



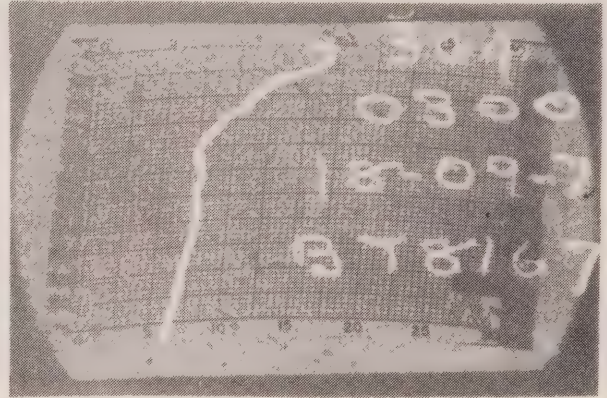
0300 / 16-09-74
 49° 49' N.
 142° 40' W.



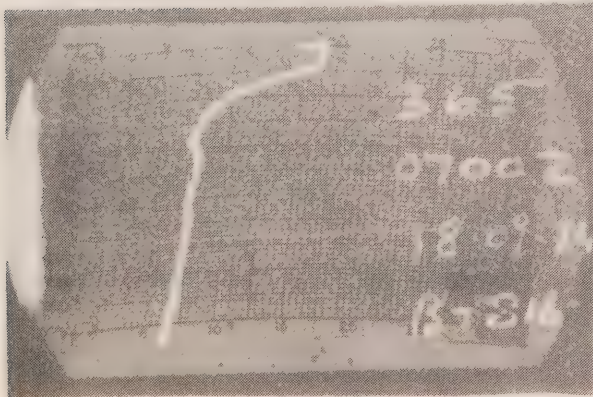
1300 / 16-09-74
 49° 41' N.
 140° 40' W.



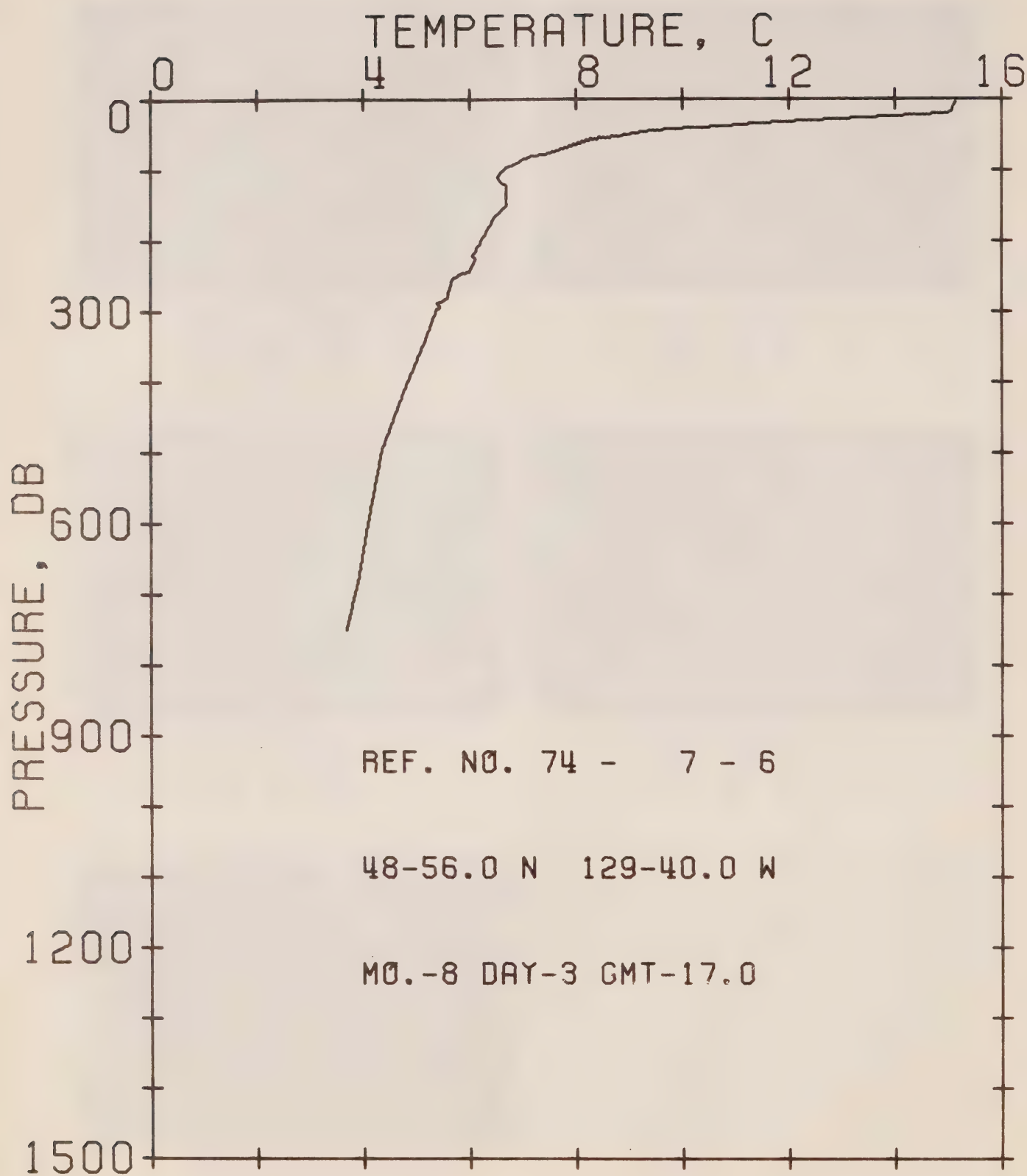
2330 / 17-09-74
 48° 51' N.
 128° 40' W.



0300 / 18-09-74
 48° 46' N.
 127° 40' W.



0700 / 18-09-74
 48° 42' N.
 126° 40' W.



OFFSHORE OCEANOGRAPHY

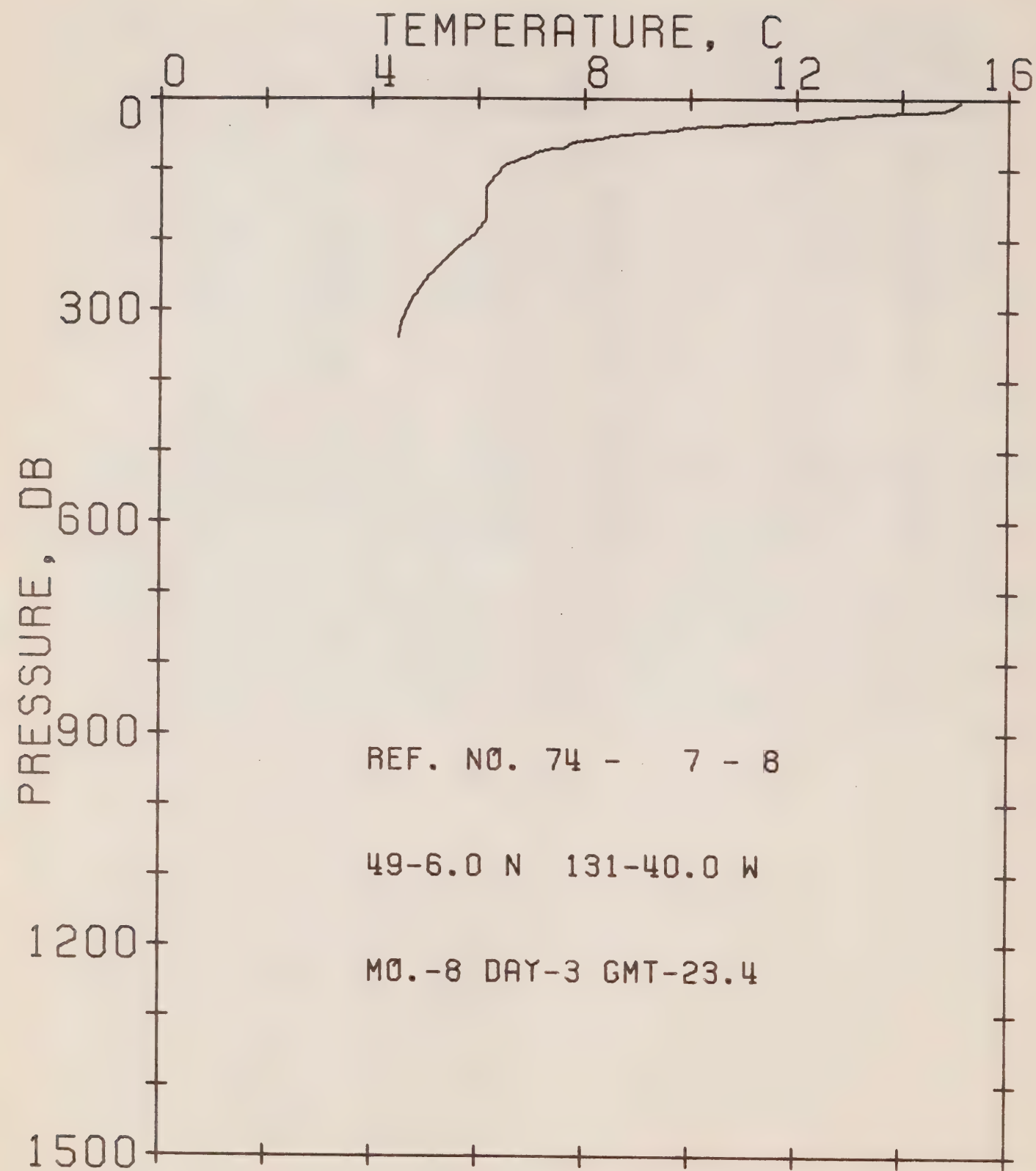
REFERENCE NO. 74- 7- 6

DATE 03/ 8/74

POSITION 48-05.6N 129-04.0W GMT 17.0

RESULTS OF XBT CAST 44 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	15.15	72	7.65	226	6.10
13	15.10	75	7.50	243	5.99
18	15.04	78	7.39	246	5.83
20	14.94	80	7.18	255	5.67
24	13.93	85	6.96	283	5.56
28	12.91	91	6.85	289	5.39
32	11.88	95	6.69	293	5.45
35	11.01	103	6.59	295	5.39
37	10.85	113	6.53	340	5.18
40	10.18	117	6.59	406	4.79
42	9.81	122	6.69	495	4.35
44	9.45	149	6.69	601	4.07
46	9.24	167	6.48	674	3.91
51	8.77	194	6.26	749	3.68
56	8.29	223	6.05		



OFFSHORE OCEANOGRAPHY

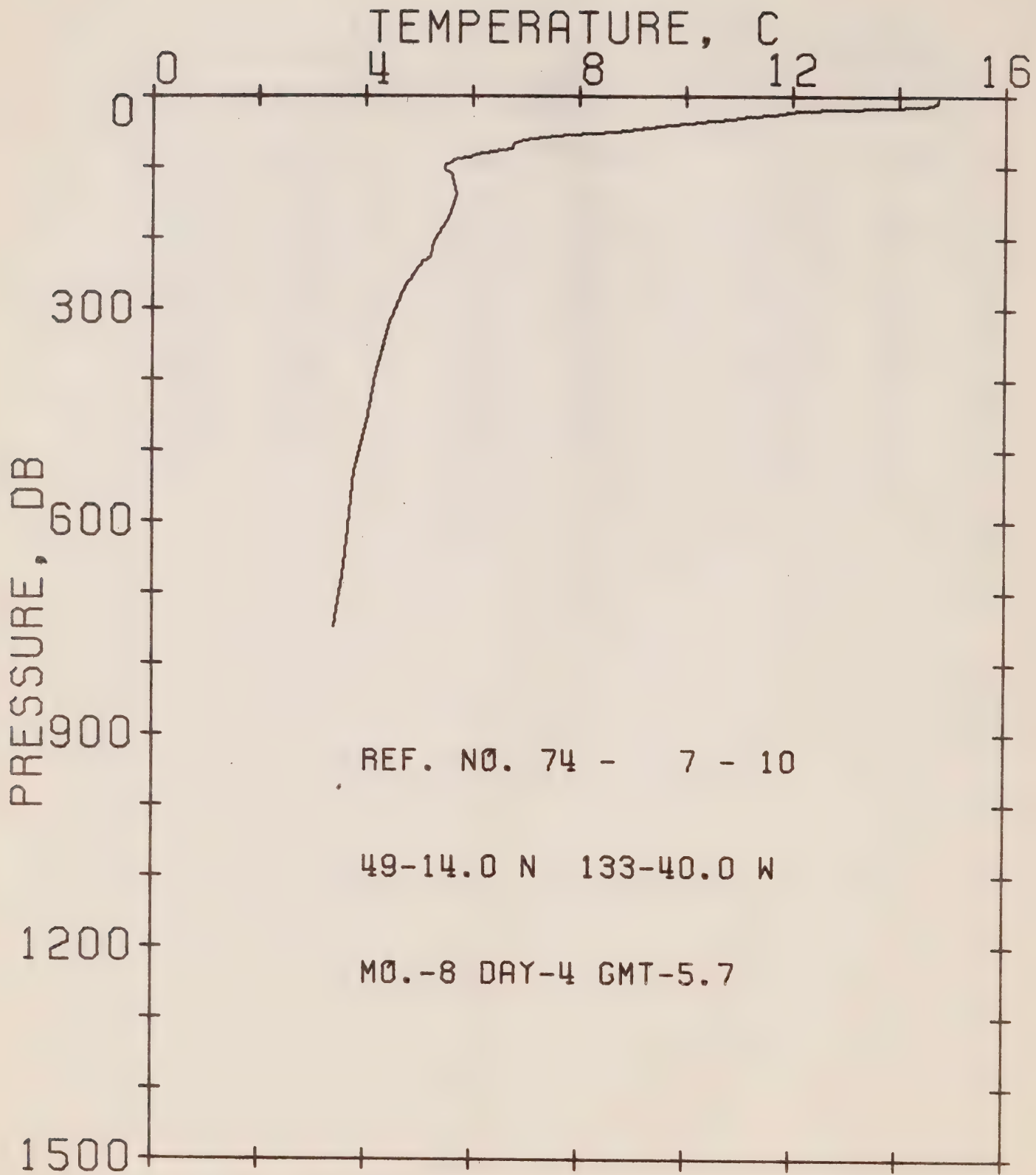
REFERENCE NO. 74- 7- 8

DATE 03/ 8/74

POSITION 49-00.6N 131-04.0W GMT 23.4

RESULTS OF XBT CAST 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	15.10	52	8.50	110	6.32
12	14.94	55	8.29	125	6.15
13	14.89	59	7.87	170	6.15
16	14.79	64	7.71	191	5.94
19	13.57	69	7.60	201	5.77
25	12.65	70	7.39	214	5.56
30	12.19	76	7.07	232	5.34
32	11.78	80	7.01	252	5.07
39	9.86	86	6.75	286	4.74
41	9.81	89	6.64	317	4.57
44	9.71	91	6.53	338	4.52
47	9.03				



OFFSHORE OCEANOGRAPHY

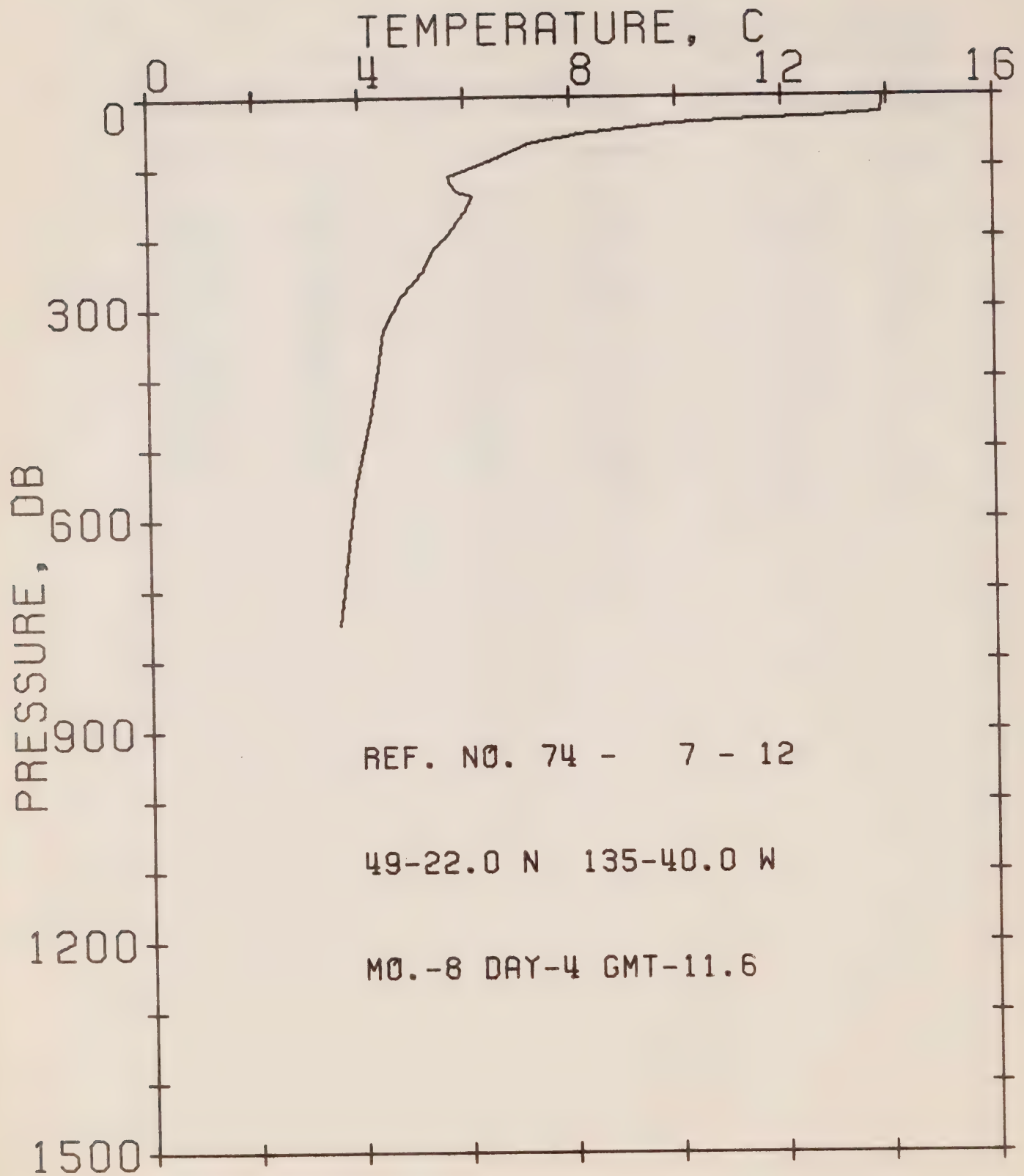
REFERENCE NO. 74- 7- 10

DATE 04/ 8/74

POSITION 49-01.4N 133-04.0W GMT 05.7

RESULTS OF XBT CAST 40 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	14.74	49	9.66	140	5.72
10	14.69	53	7.81	169	5.56
11	14.59	58	7.34	206	5.28
14	14.49	61	6.96	225	5.23
20	12.14	65	6.80	234	5.07
26	11.62	73	6.75	268	4.74
28	11.21	77	6.37	320	4.46
32	10.85	82	6.05	394	4.18
35	10.23	85	5.94	459	4.02
37	10.07	87	5.72	529	3.80
39	9.66	97	5.50	610	3.68
41	9.55	105	5.50	678	3.57
43	9.29	107	5.61	747	3.41
45	9.08				



OFFSHORE OCEANOGRAPHY

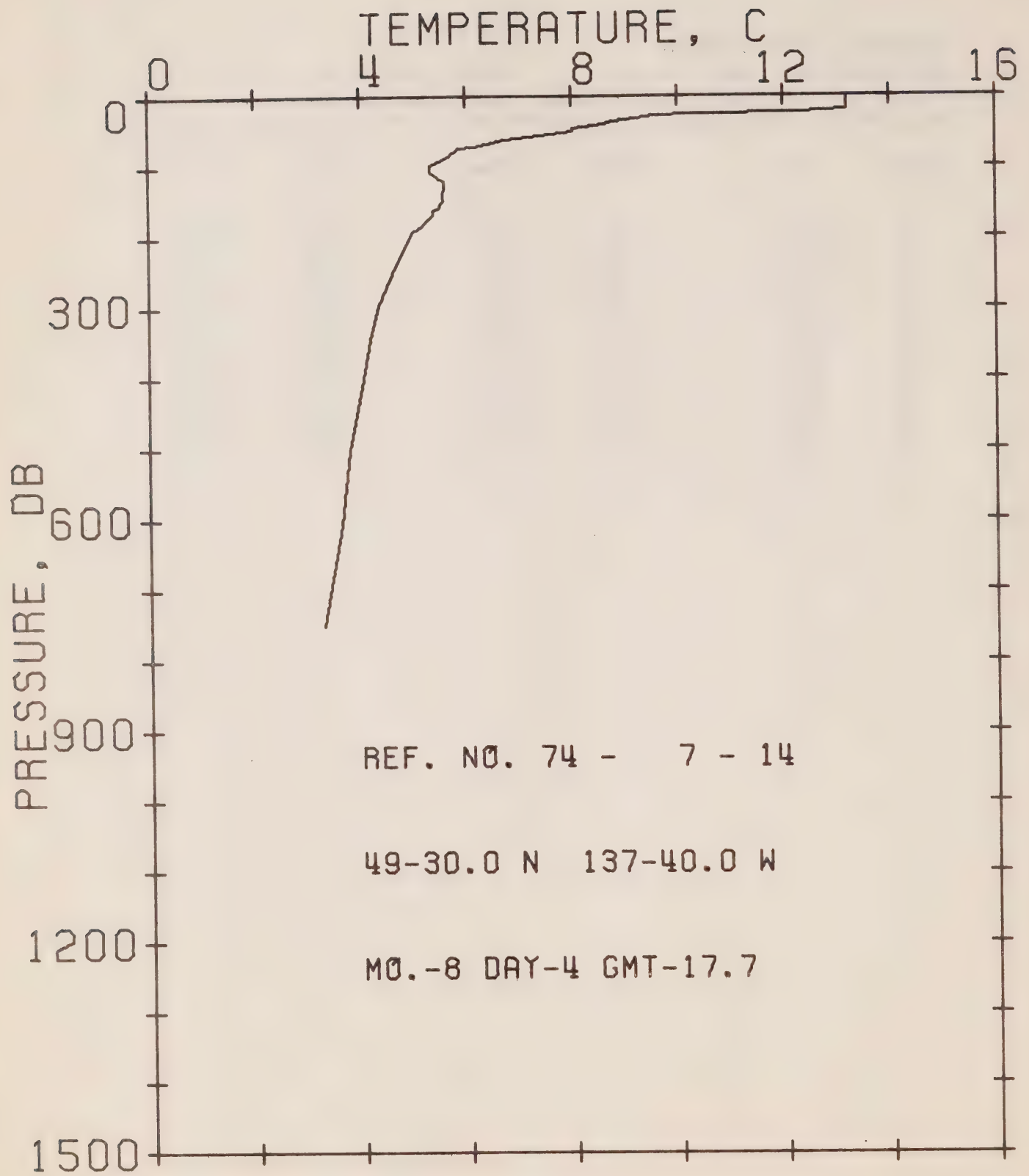
REFERENCE NO. 74- 7- 12

DATE 04/ 8/74

POSITION 49-02.2N 135-04.0W GMT 11.6

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.93	66	7.23	193	5.72
12	13.93	80	6.80	215	5.45
23	13.88	90	6.48	246	5.23
29	12.60	98	6.21	283	4.79
32	11.57	99	6.10	329	4.46
34	11.01	105	5.99	385	4.35
38	9.92	113	5.72	456	4.18
45	8.92	123	5.77	546	3.91
52	8.19	133	5.88	617	3.80
57	7.81	140	6.15	688	3.68
58	7.76	159	6.05	747	3.57



OFFSHORE OCEANOGRAPHY

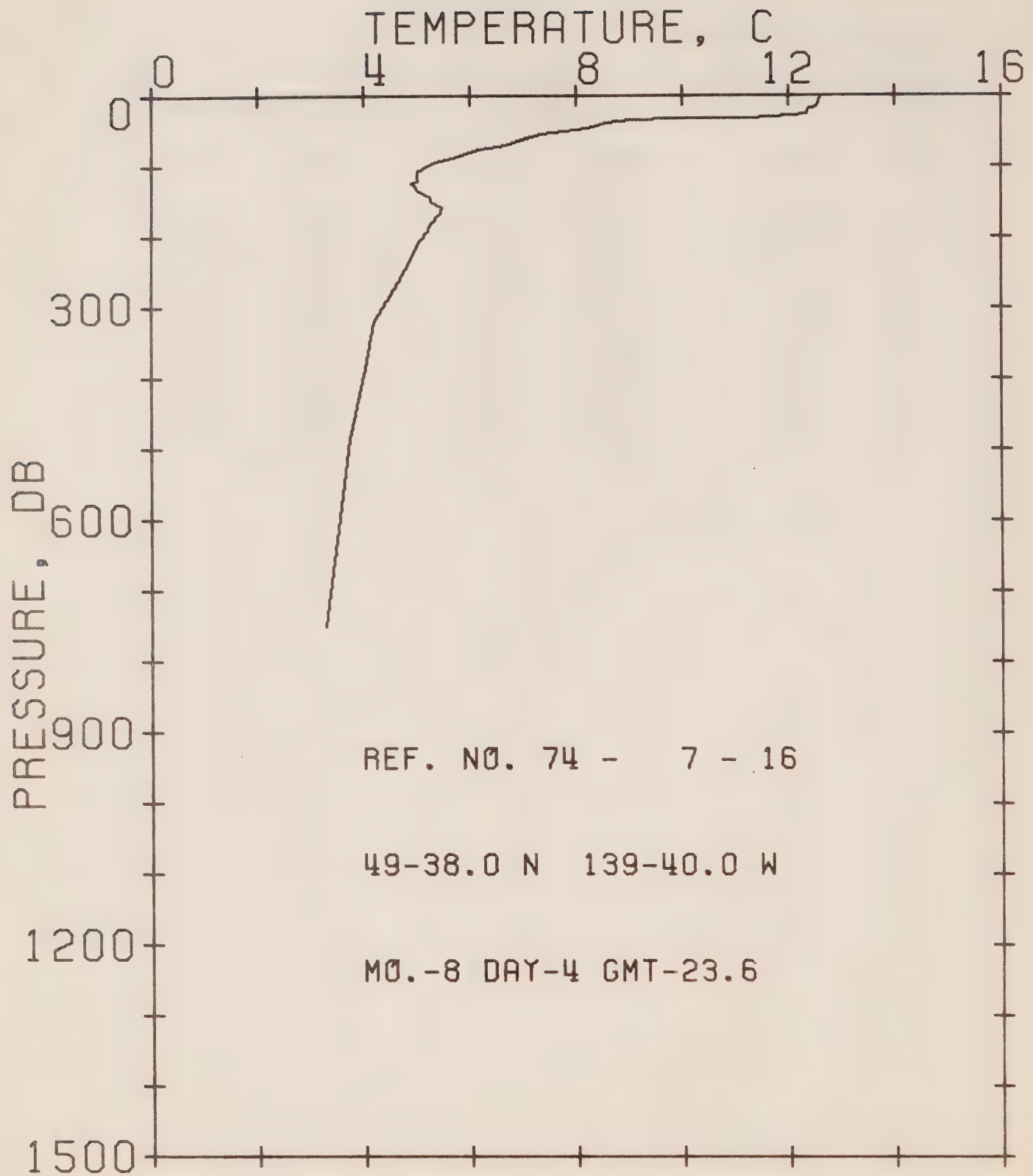
REFERENCE NO. 74- 7- 14

DATE 04/ 8/74

POSITION 49-03.0N 137-04.0W GMT 17.7

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	13.21	49	8.03	161	5.39
14	13.21	62	6.75	168	5.39
20	13.21	72	6.15	183	5.18
23	12.29	74	5.88	192	5.01
25	10.38	85	5.67	238	4.68
28	9.50	97	5.34	298	4.35
30	9.45	108	5.34	345	4.18
31	9.19	115	5.50	411	4.02
35	8.77	121	5.61	502	3.80
39	8.61	149	5.56	607	3.63
46	8.03	157	5.50	749	3.29



OFFSHORE OCEANOGRAPHY

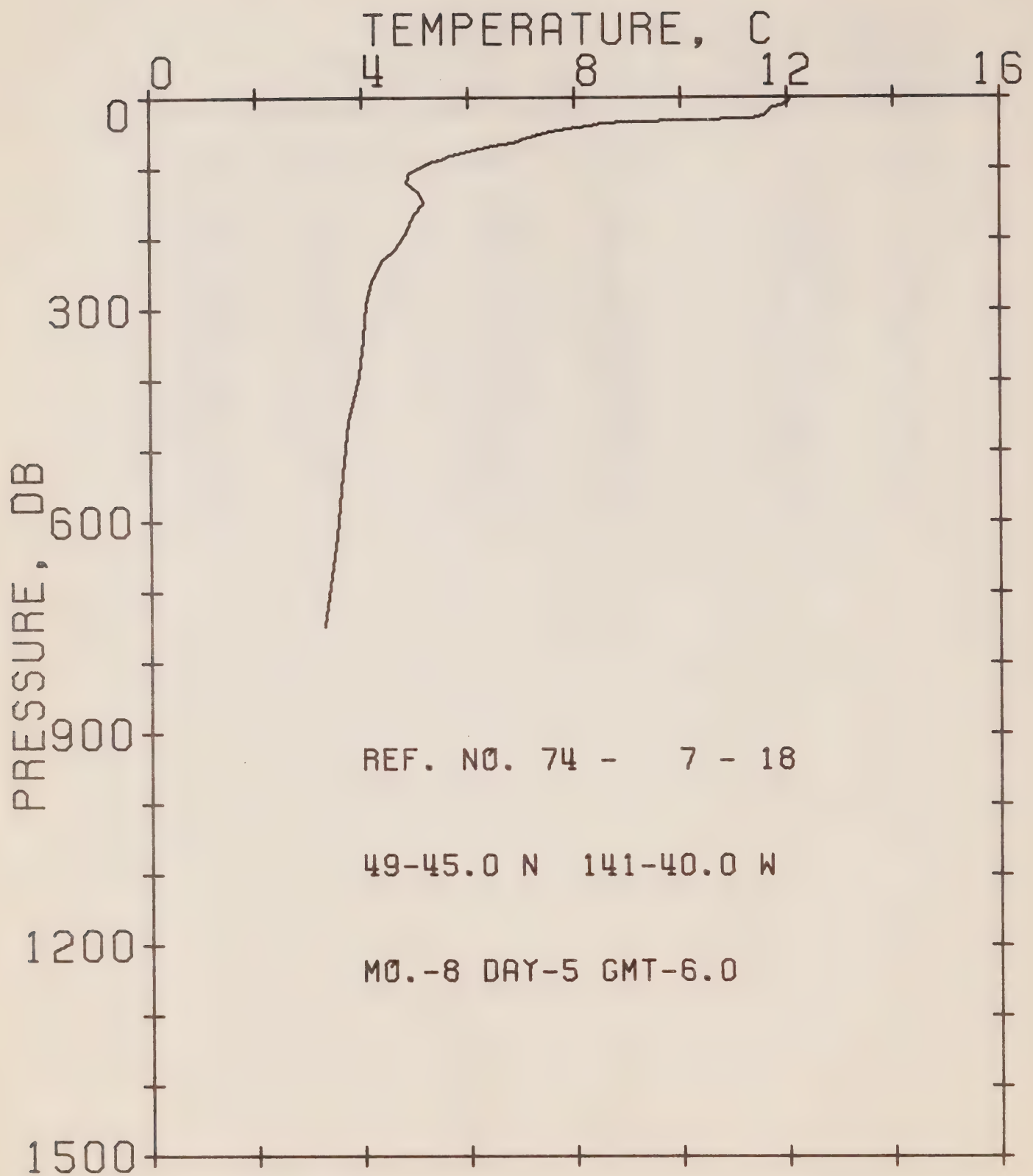
REFERENCE NO. 74- 7- 16

DATE 04/ 8/74

POSITION. 49-03.8N 139-04.0W GMT 23.6

RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	12.60	63	6.91	157	5.50
11	12.55	68	6.75	166	5.45
16	12.50	71	6.53	173	5.34
18	12.40	76	6.15	176	5.34
25	12.34	87	5.67	180	5.28
28	12.04	94	5.34	194	5.18
31	11.26	101	5.18	203	5.07
32	9.86	109	5.01	227	4.90
34	9.03	121	5.01	264	4.63
38	8.55	123	4.90	321	4.18
42	8.40	127	4.96	385	4.02
46	8.19	133	5.01	485	3.74
53	7.34	141	5.23	582	3.57
60	7.07	149	5.28	749	3.29



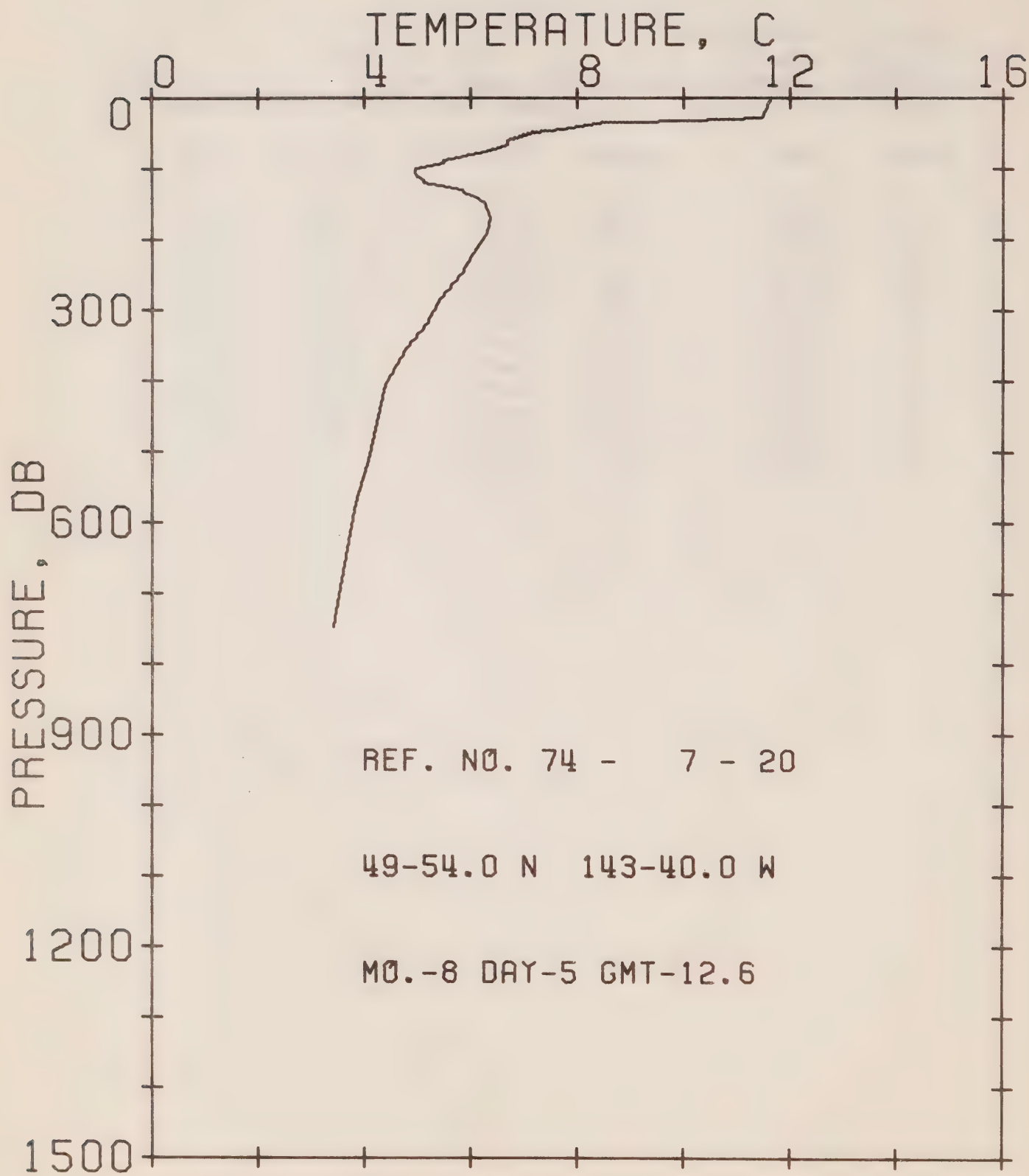
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 7- 18 DATE 05/ 8/74

POSITION 49-04.5N 141-04.0W GMT 06.0

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	12.04	64	6.85	190	4.85
11	11.93	68	6.48	214	4.63
15	11.73	75	5.99	231	4.41
26	11.57	82	5.67	260	4.18
29	11.32	88	5.50	294	4.07
33	9.03	90	5.34	342	4.02
36	8.50	99	5.07	394	3.96
39	8.29	106	4.90	459	3.74
41	8.03	119	4.85	534	3.63
47	7.55	134	5.07	622	3.52
52	7.34	148	5.18	748	3.29
57	7.07	171	4.96		



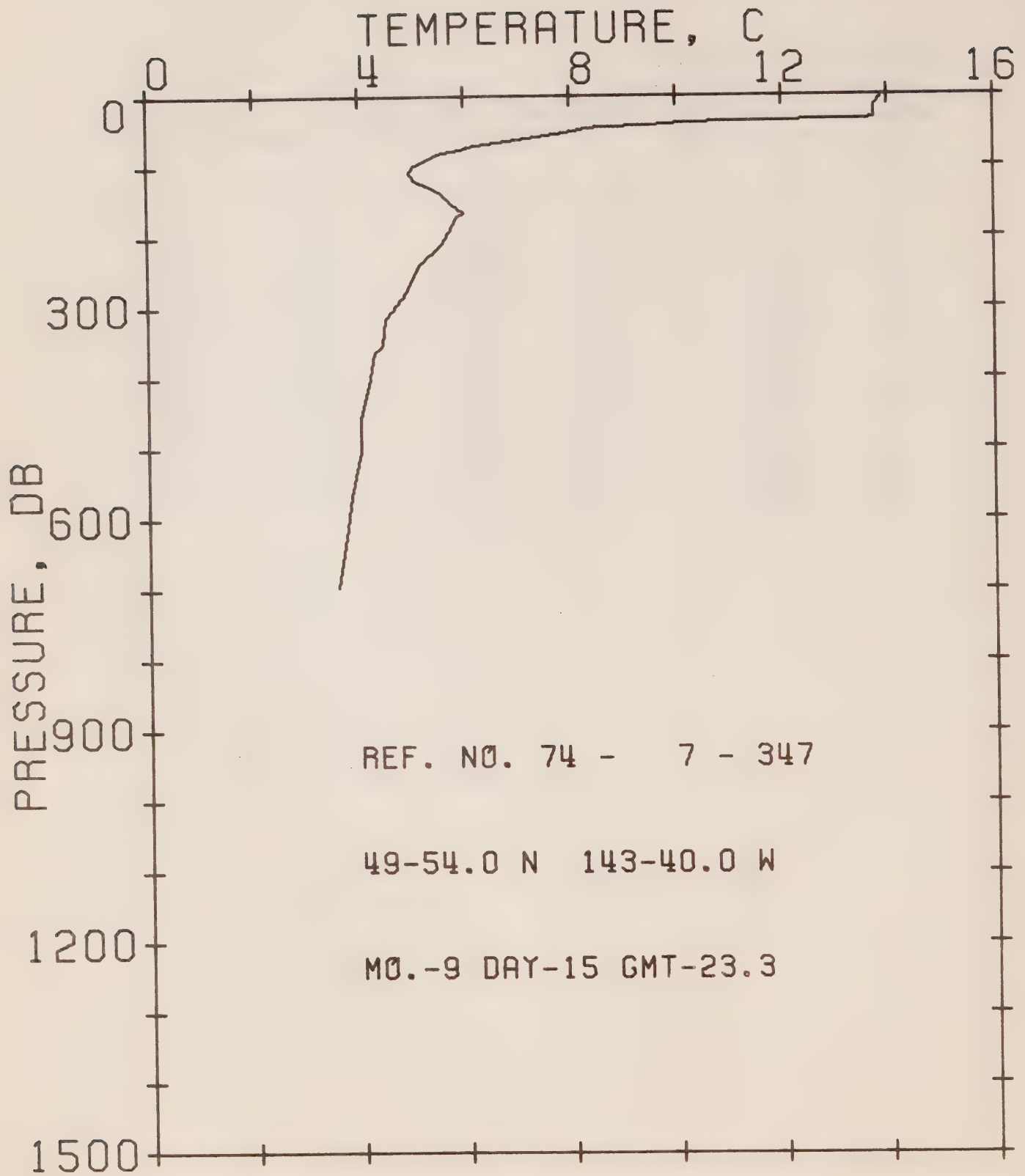
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 7- 30 DATE 05/ 8/74

POSITION 49-05.4N 143-04.0W GMT 12.6

RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	11.62	87	5.50	190	6.32
12	11.57	92	5.50	220	6.05
21	11.52	101	4.96	248	5.83
28	11.47	107	4.96	284	5.45
31	10.97	114	5.07	320	5.18
33	8.98	117	5.12	354	4.79
34	8.50	121	5.12	405	4.41
39	8.03	125	5.56	460	4.24
44	7.71	130	5.83	513	4.07
48	7.18	134	5.88	573	3.85
59	6.69	140	6.10	637	3.68
66	6.69	148	6.26	747	3.41
76	6.26	169	6.37		



OFFSHORE OCEANOGRAPHY

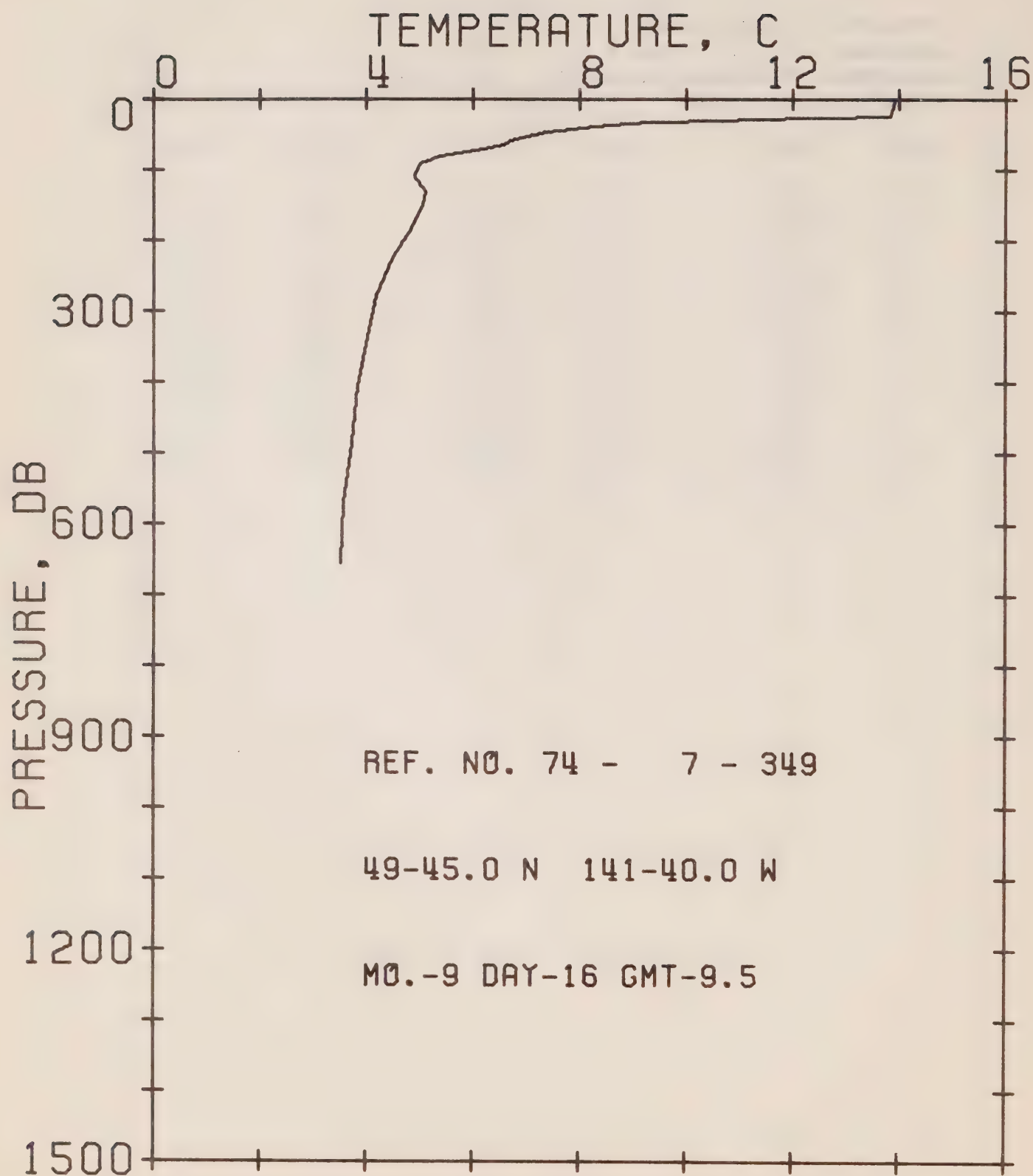
REFERENCE NO. 74- 7-347

DATE 15/ 9/74

POSITION 49-05.4N 143-04.0W GMT 23.3

RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	13.88	58	7.39	209	5.56
16	13.77	72	6.05	239	5.18
28	13.77	74	6.05	277	4.90
31	13.77	81	5.50	316	4.52
33	13.57	98	5.07	351	4.46
36	11.11	108	4.96	364	4.30
38	10.13	120	5.07	410	4.18
41	9.50	128	5.34	456	4.02
44	8.61	139	5.56	503	4.02
46	8.29	152	5.77	567	3.85
47	8.19	166	5.99	625	3.74
50	8.08	171	5.88	696	3.57
55	7.55	188	5.77		



OFFSHORE OCEANOGRAPHY

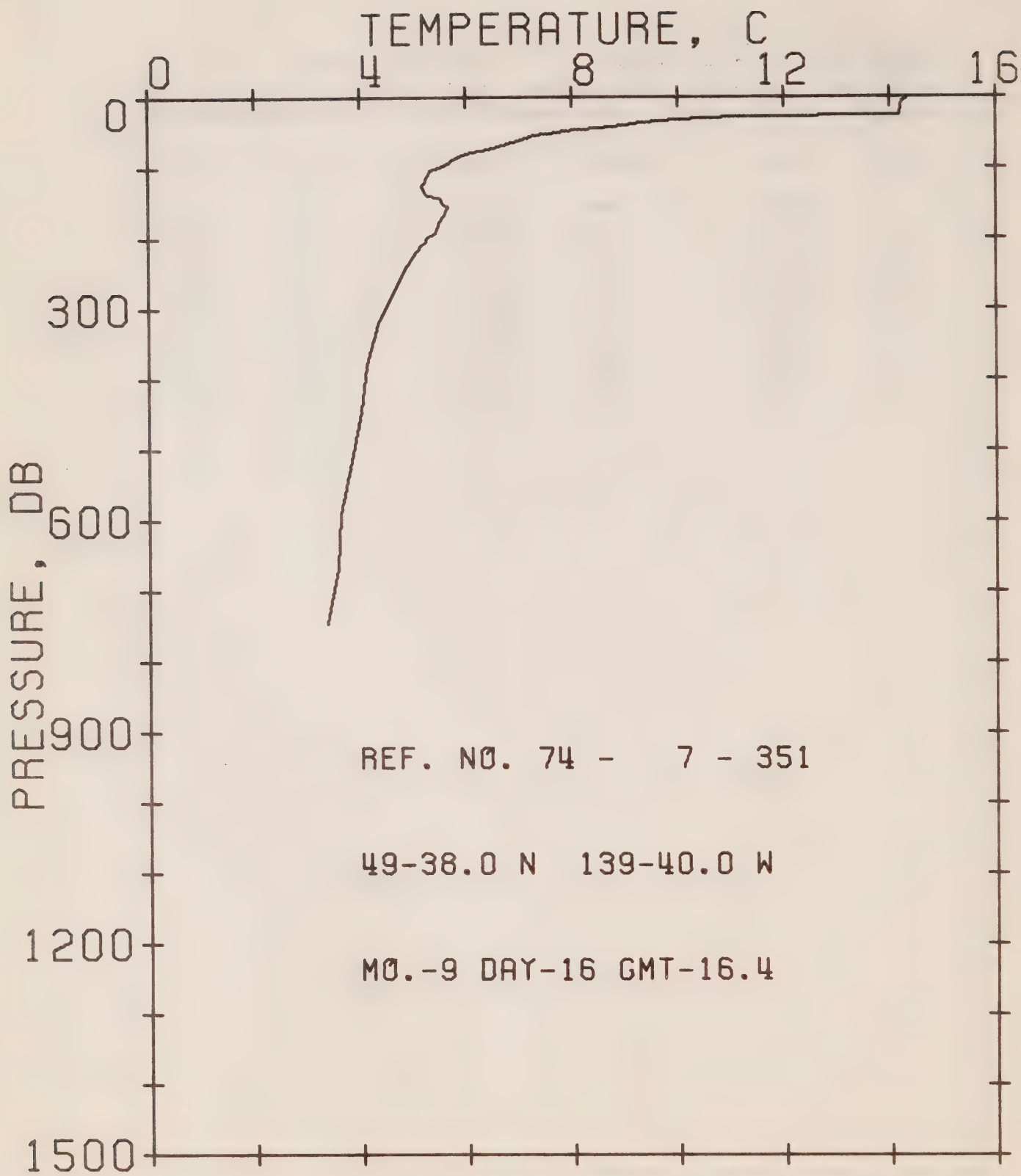
REFERENCE NO. 74- 7-349

DATE 16/ 9/74

POSITION 49-04.5N 141-04.0W GMT 09.5

RESULTS OF XBT CAST 27 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	13.93	46	7.39	149	5.07
12	13.88	53	6.91	182	4.85
23	13.83	58	6.69	222	4.52
27	11.21	63	6.59	277	4.18
29	10.75	71	6.05	336	4.02
32	9.34	80	5.39	405	3.85
35	8.55	90	5.01	486	3.74
39	8.03	108	4.90	569	3.57
41	7.87	129	5.12	654	3.52



OFFSHORE OCEANOGRAPHY

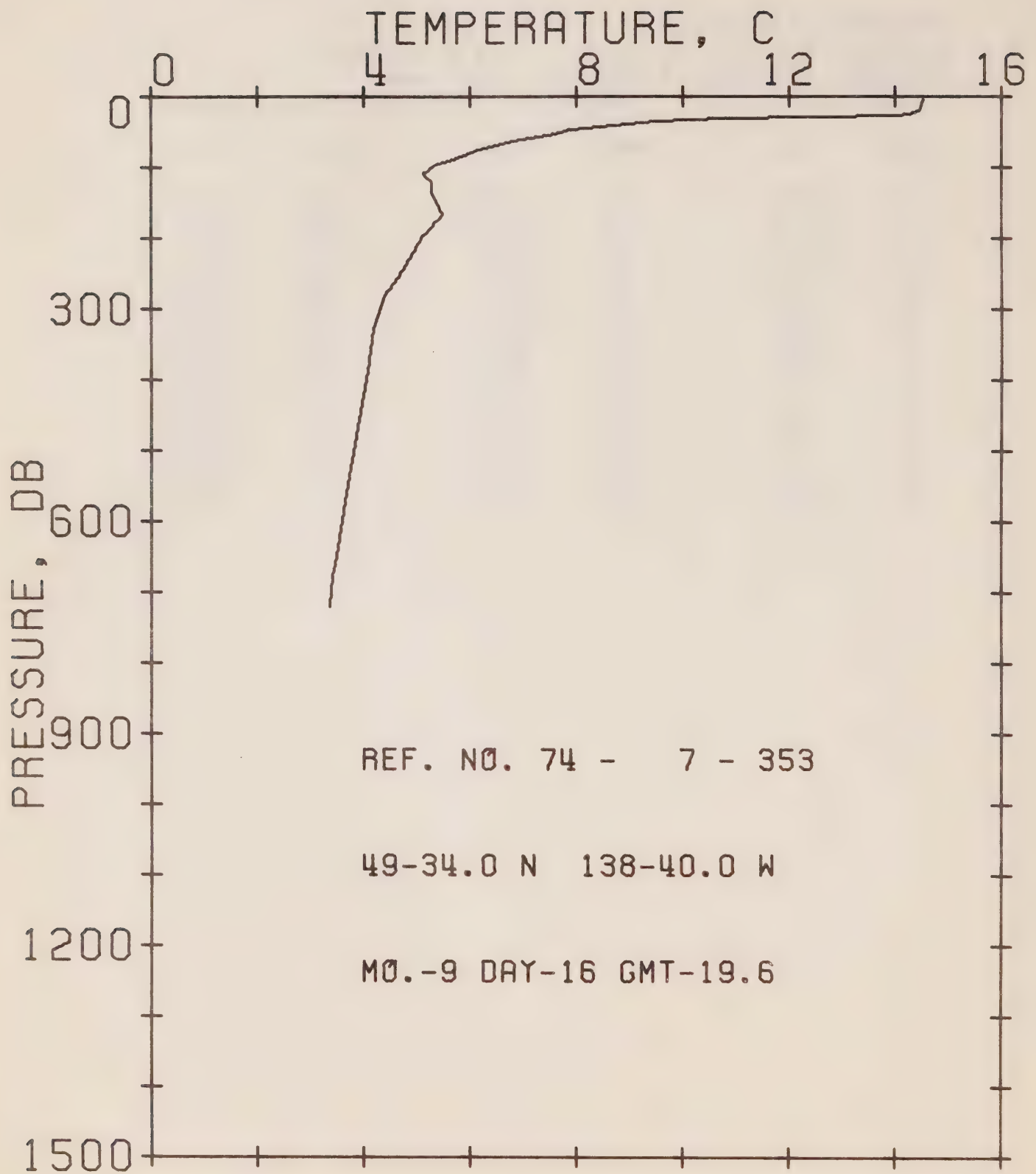
REFERENCE NO. 74- 7-351

DATE 16/ 9/74

POSITION 49-03.8N 139-04.0W GMT 16.4

RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.33	74	6.42	169	5.56
6	14.23	78	6.10	181	5.50
25	14.18	82	5.94	191	5.45
28	11.11	87	5.77	196	5.34
32	9.97	93	5.67	221	5.07
35	9.34	99	5.50	244	4.85
39	8.98	104	5.34	278	4.63
43	8.50	122	5.23	322	4.35
46	8.13	125	5.18	379	4.13
47	7.81	135	5.23	446	4.02
49	7.76	140	5.28	515	3.85
54	7.28	143	5.50	591	3.63
60	7.07	151	5.56	668	3.57
65	6.80	156	5.67	745	3.35



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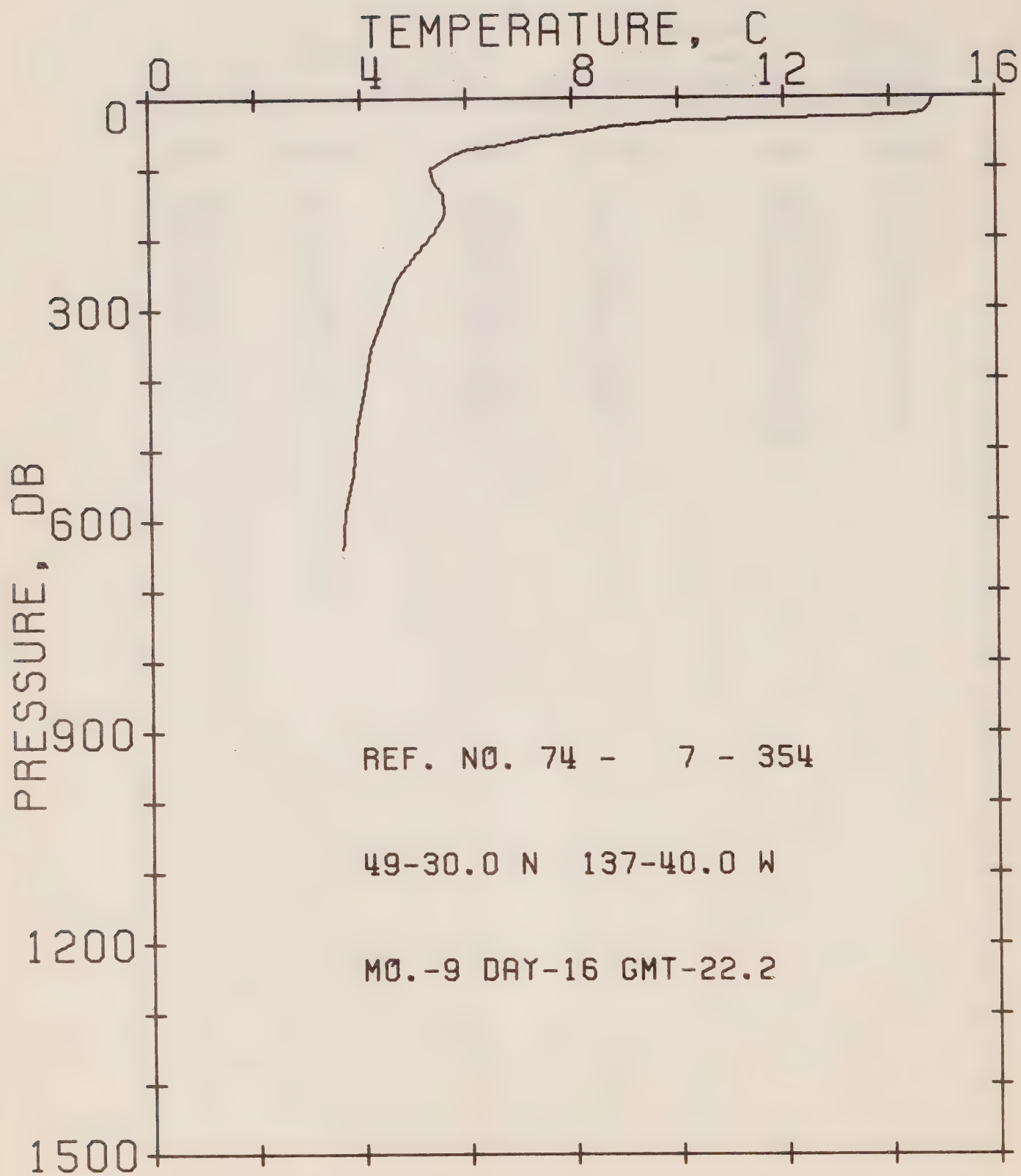
REFERENCE NO. 74- 7-353

DATE 16/ 9/74

POSITION 49-03.4N 139-04.0W GMT 19.6

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.54	74	6.15	256	4.63
16	14.49	87	5.67	280	4.41
22	14.38	95	5.34	328	4.18
25	14.08	107	5.12	387	4.07
29	10.80	121	5.28	455	3.91
34	9.50	133	5.29	513	3.80
44	8.19	152	5.39	586	3.63
46	7.87	166	5.50	662	3.46
51	7.60	195	5.12	678	3.41
59	6.96	229	4.85	719	3.35
64	6.69				



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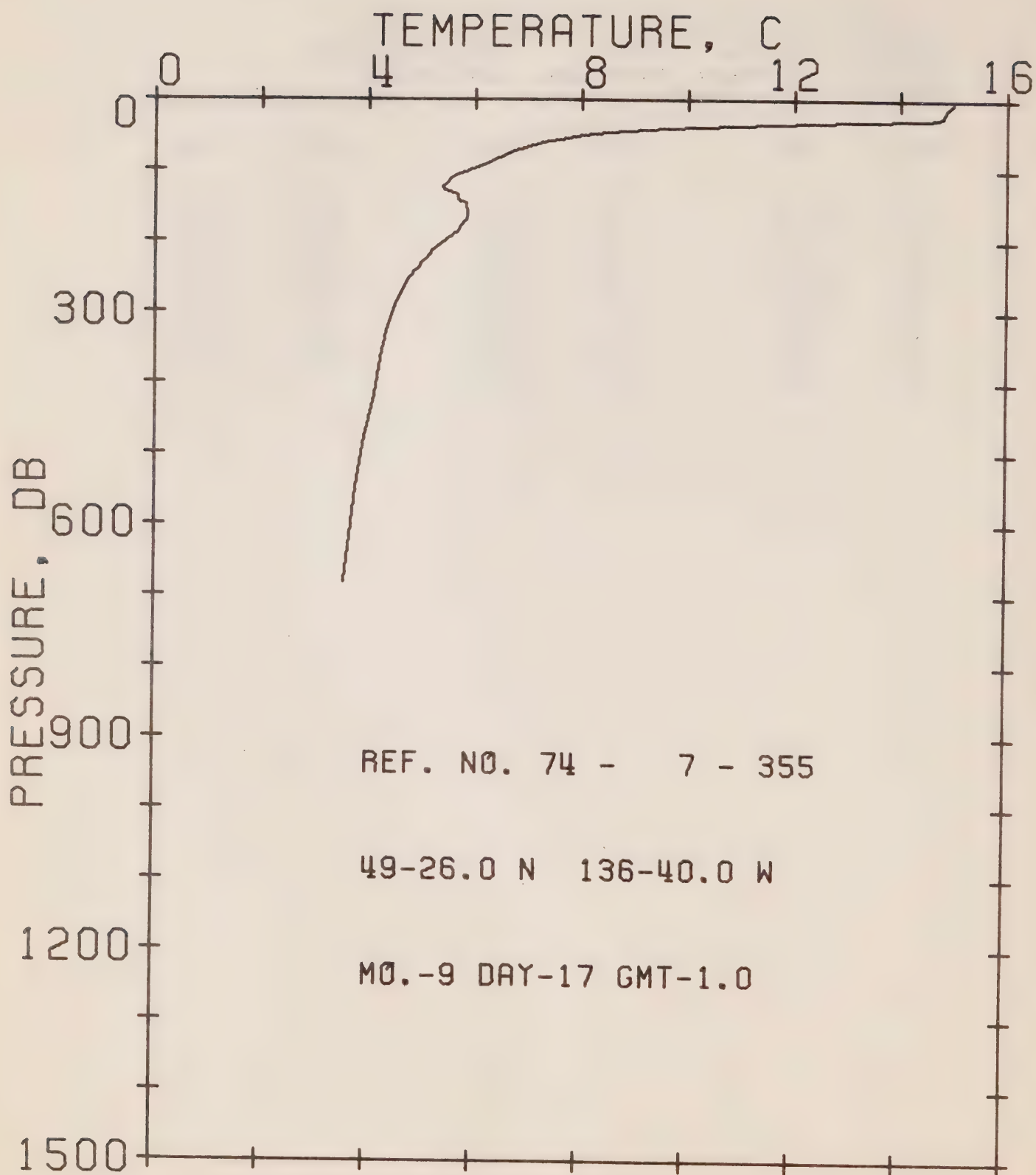
REFERENCE NO. 74- 7-354

DATE 16/ 9/74

POSITION 49-03.0N 137-04.0W GMT 22.2

RESULTS OF XBT CAST -- 26 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
1	14.84	65	6.69	257	4.68
14	14.74	72	6.05	303	4.46
22	14.64	79	5.77	357	4.18
25	14.28	99	5.34	408	4.07
29	11.89	118	5.39	468	3.91
32	10.02	136	5.56	533	3.85
42	8.55	166	5.61	588	3.68
45	8.40	192	5.39	650	3.63
55	7.28	219	5.07		



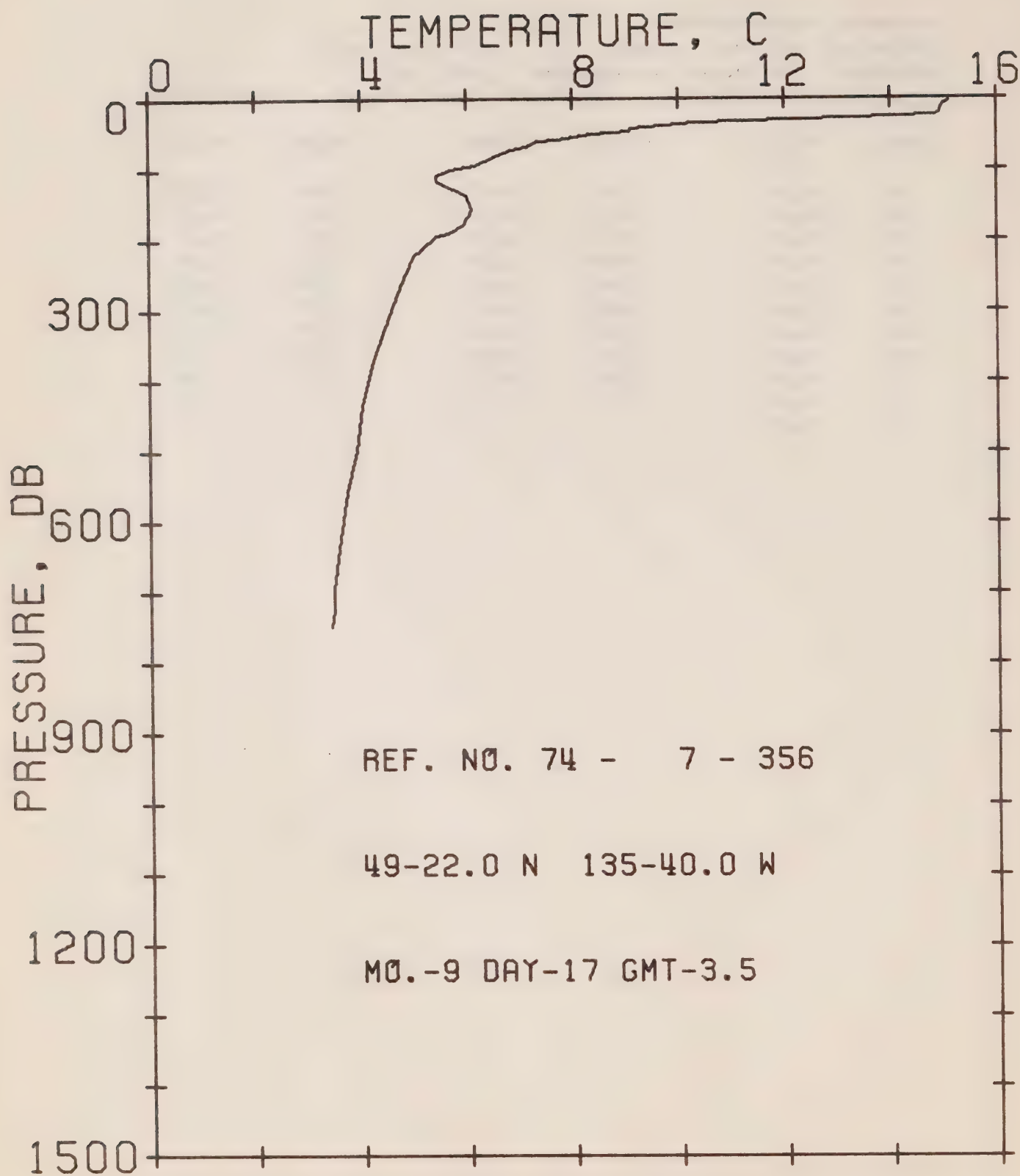
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REFERENCE NO. 74- 7-355 DATE 17/ 9/74

POSITION 49-02.6N 136-04.0W GMT 01.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	14.99	91	6.15	225	5.07
13	14.89	107	5.61	255	4.74
23	14.79	123	5.39	292	4.52
27	14.54	128	5.45	327	4.35
30	13.11	134	5.67	366	4.24
35	10.90	141	5.67	417	4.13
40	9.60	146	5.83	477	3.96
46	8.50	167	5.88	548	3.80
50	8.03	185	5.67	617	3.68
60	7.28	208	5.28	682	3.57
72	6.75				



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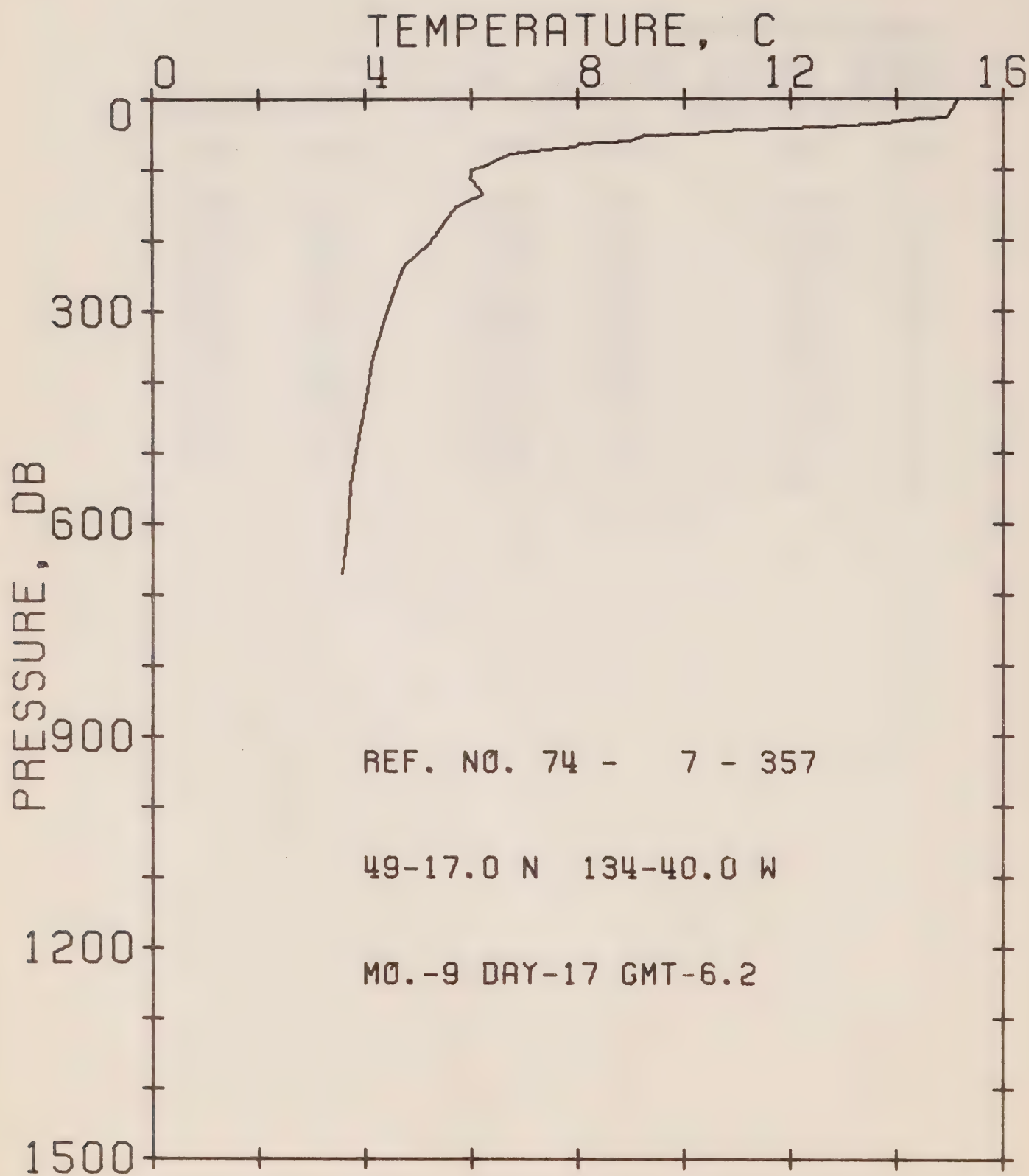
REFERENCE NO. 74- 7-356

DATE 17/ 9/74

POSITION 49-02.2N 135-04.0W GMT 03.5

RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	15.10	71	6.85	213	5.18
9	14.99	79	6.59	223	5.01
20	14.94	93	6.15	267	4.74
24	14.84	101	5.72	325	4.46
28	13.26	108	5.45	373	4.24
32	11.16	116	5.45	435	4.02
34	10.33	128	5.77	498	3.91
42	9.13	136	5.99	558	3.74
46	9.08	158	6.10	637	3.57
50	8.34	177	5.94	696	3.46
57	7.71	189	5.67	726	3.46
60	7.34	194	5.45	748	3.41
67	7.12				



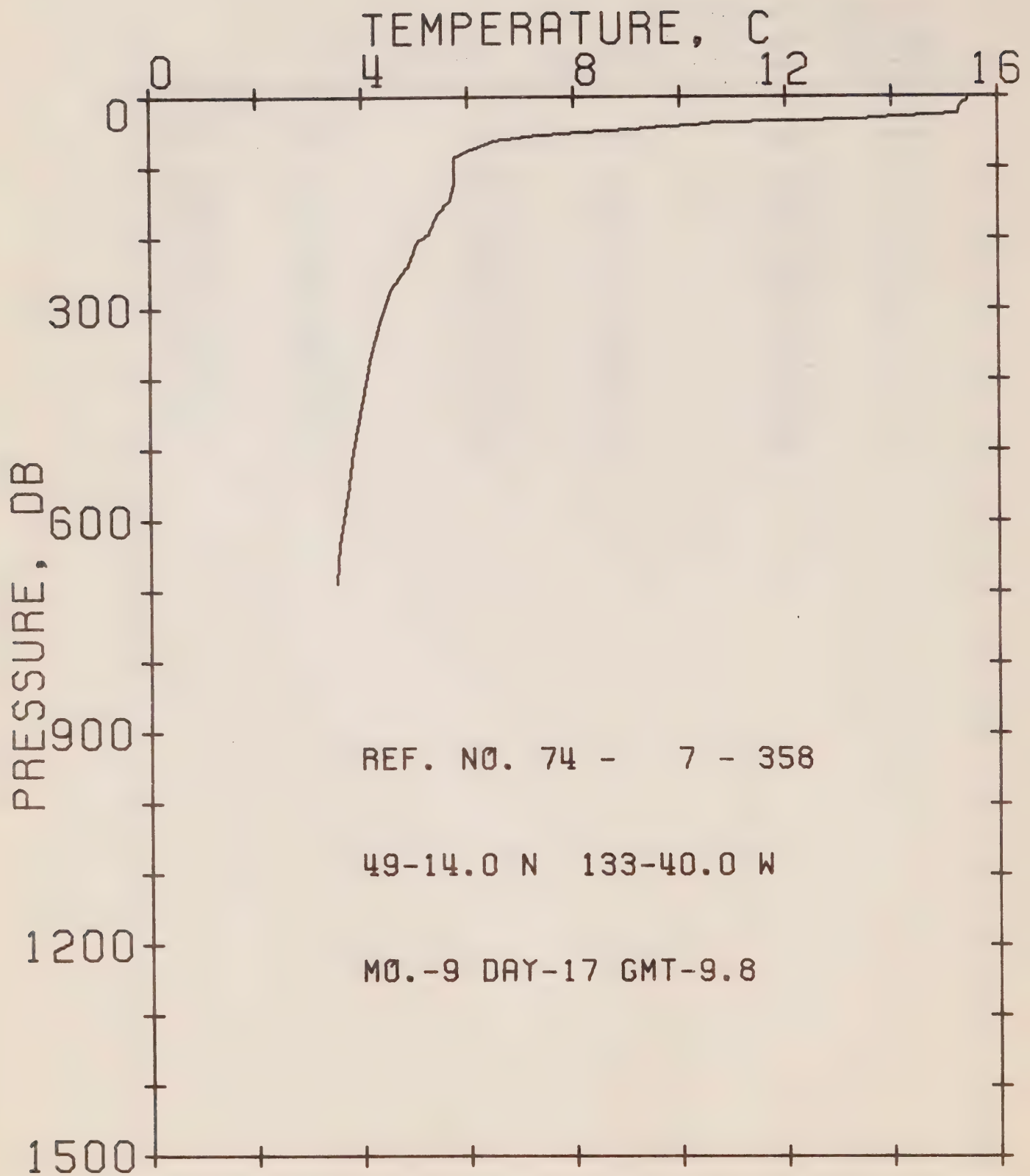
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 7-357 DATE 17/ 9/74

POSITION 49-01.7N 134-04.0W GMT 06.2

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	15.15	64	8.03	175	5.50
16	15.04	68	7.97	203	5.23
25	14.94	72	7.39	235	4.74
30	14.13	77	6.75	272	4.57
34	13.83	87	6.42	320	4.35
36	13.42	96	6.21	374	4.13
38	13.16	101	5.99	425	4.02
44	11.26	114	5.99	500	3.85
46	10.59	127	6.15	547	3.74
49	10.18	135	6.21	609	3.68
52	9.24	142	5.99	669	3.57
60	8.98	154	5.72		



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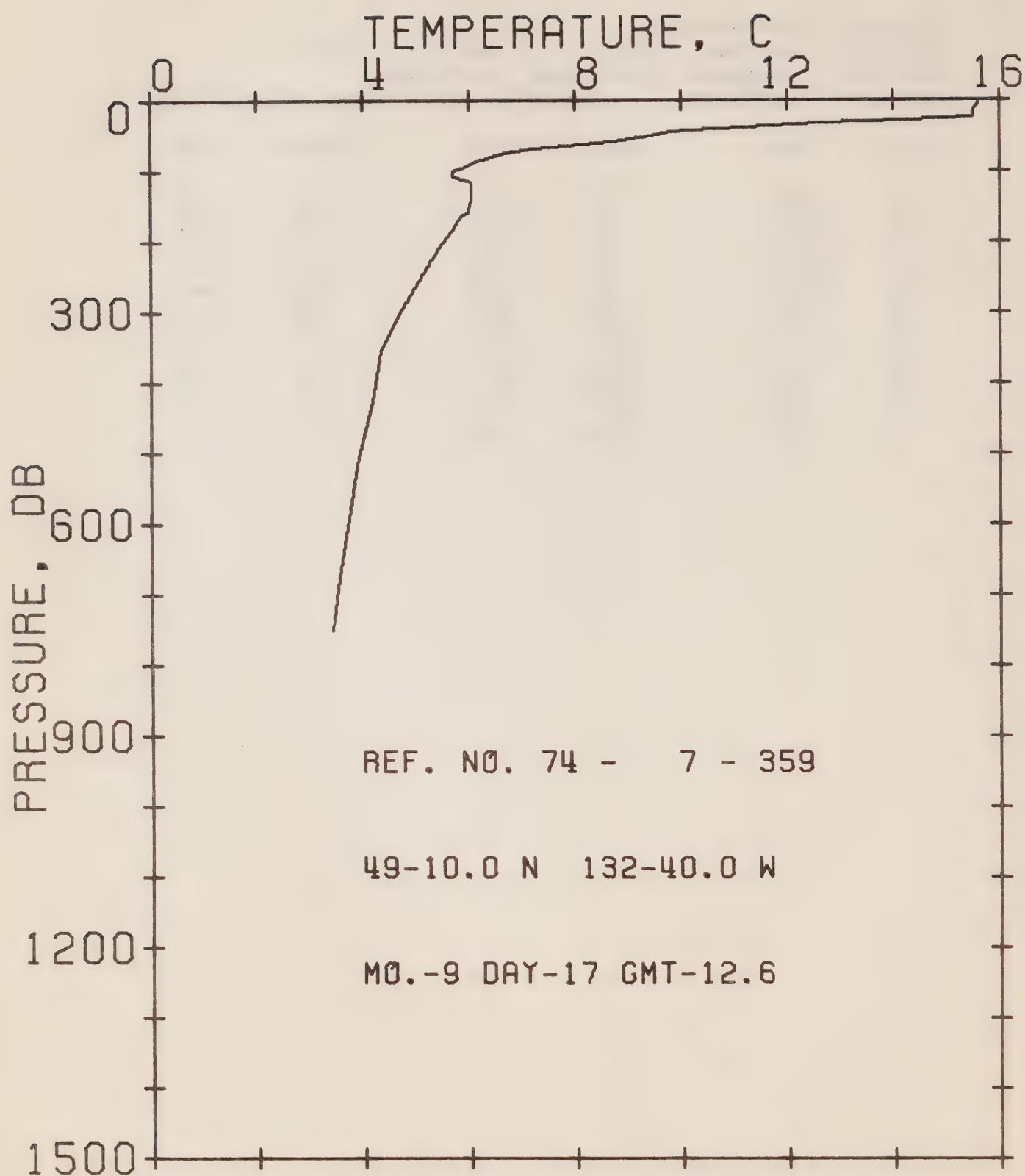
REFERENCE NO. 74- 7-358

DATE 17/ 9/74

POSITION 49-01.4N 133-04.0W GMT 09.8

RESULTS OF XBT CAST 32 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	15.45	55	7.07	204	5.07
13	15.30	57	6.96	235	4.90
23	15.25	62	6.48	273	4.57
30	13.67	66	6.37	320	4.35
32	13.42	76	5.99	364	4.18
36	10.70	85	5.77	428	4.02
39	10.28	106	5.77	501	3.85
42	9.71	123	5.77	564	3.74
45	9.13	146	5.67	633	3.57
46	9.08	167	5.45	687	3.52
50	8.13	193	5.28		



OFFSHORE OCEANOGRAPHY

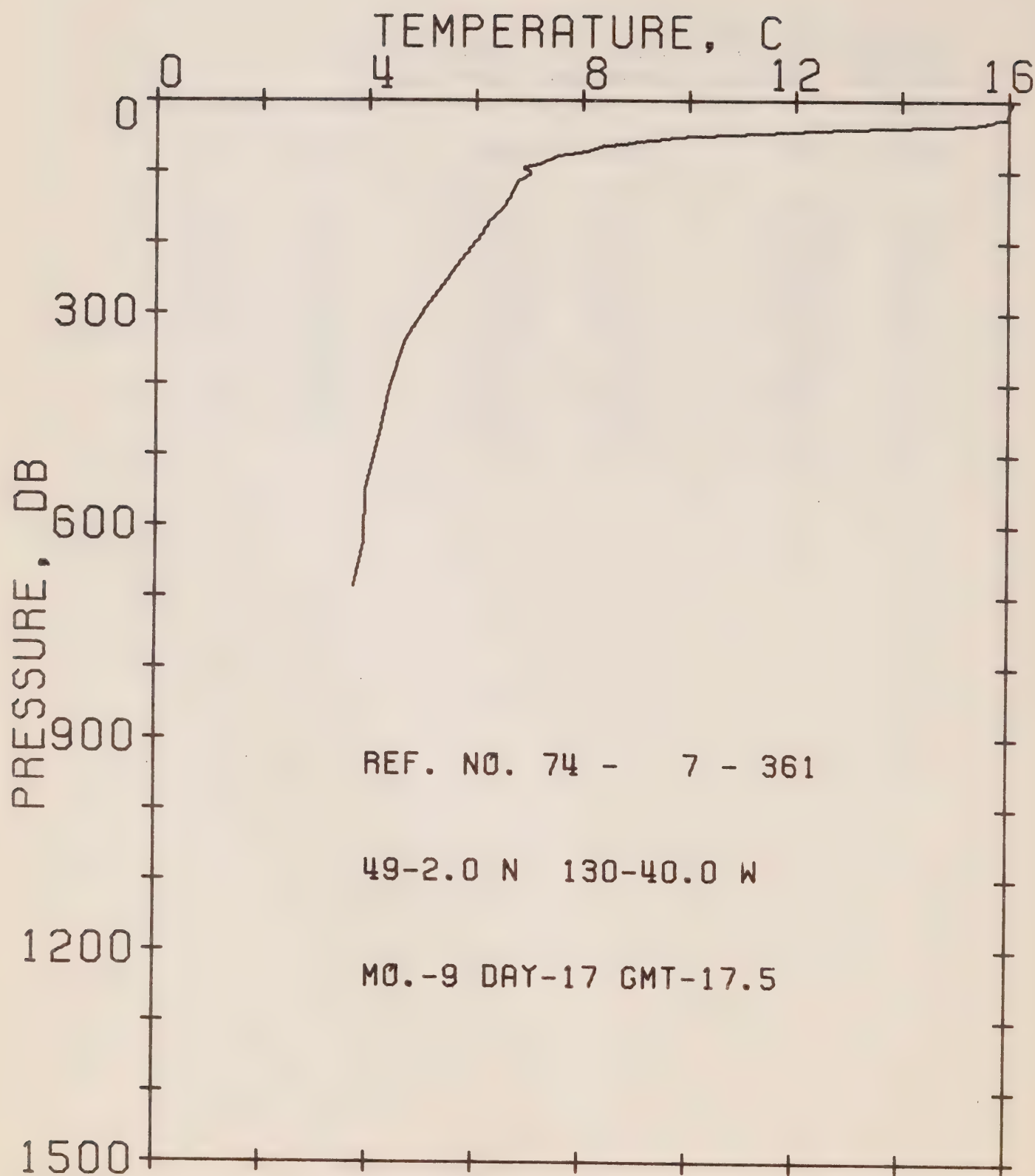
REFERENCE NO. 74- 7-359

DATE 17/ 9/74

POSITION 49-01.0N 132-04.0W GMT 12.6

RESULTS OF XBT CAST 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
7	15.60	62	8.13	185	5.67
16	15.50	68	7.23	210	5.45
23	15.50	73	6.69	236	5.23
28	14.23	85	6.15	257	5.07
32	12.60	96	5.88	296	4.74
38	11.21	101	5.72	354	4.35
42	10.13	109	5.72	427	4.18
43	9.81	116	6.05	505	3.91
48	9.55	141	6.05	593	3.74
52	9.29	158	5.99	663	3.57
54	8.98	164	5.88	749	3.41
56	8.92				



OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 7-361

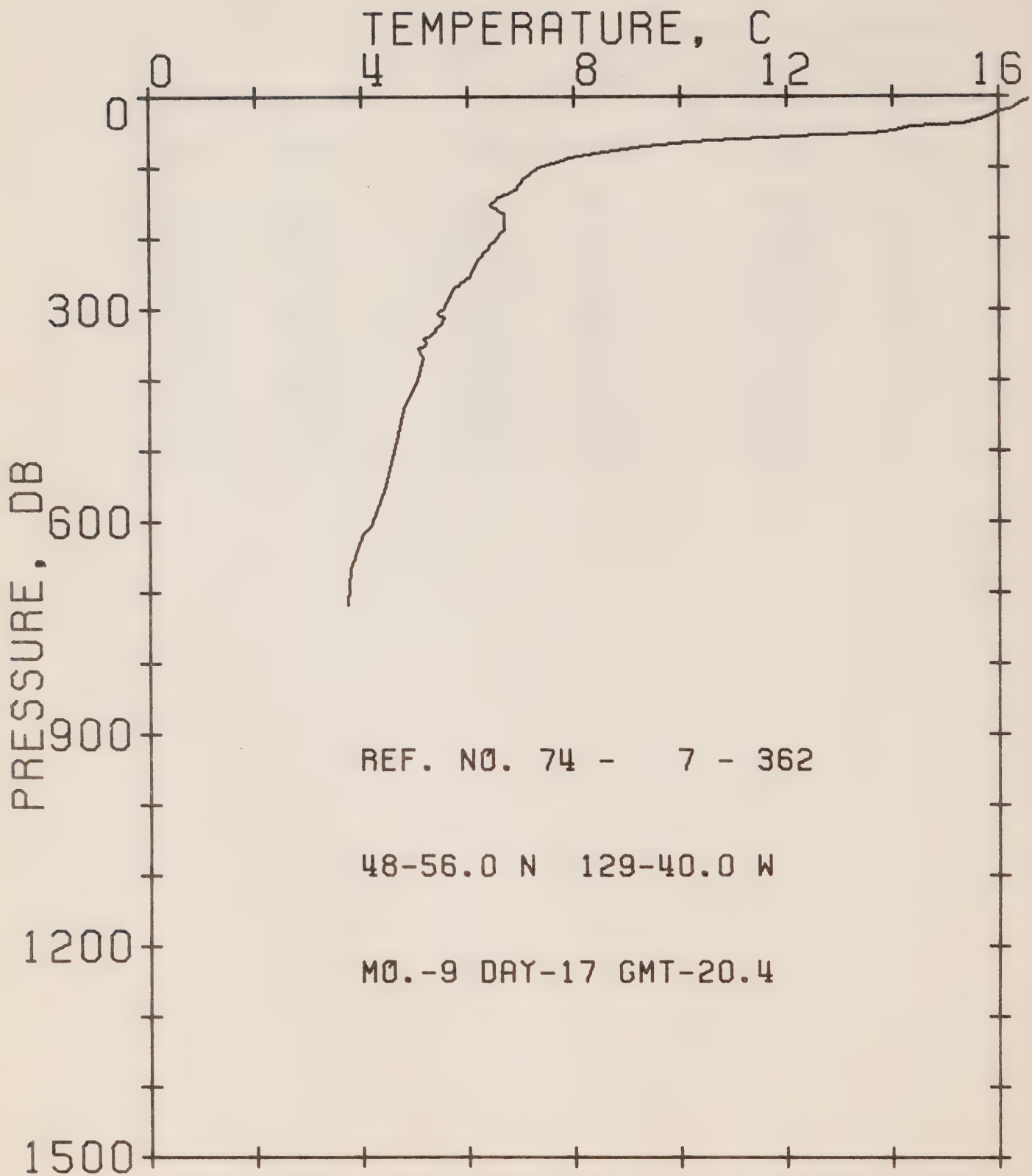
DATE 17/ 9/74

POSITION 49-00.2N 130-04.0W

GMT 17.5

RESULTS OF XBT CAST 36 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	16.06	61	8.77	149	6.53
15	16.01	64	8.40	170	6.26
25	15.96	67	8.24	199	6.10
26	15.75	71	8.08	228	5.72
29	15.65	78	7.55	261	5.39
31	15.45	89	7.18	288	5.12
33	15.35	93	6.91	337	4.68
39	12.96	95	6.91	406	4.41
46	11.32	99	7.01	479	4.18
51	9.66	103	7.01	550	3.96
53	9.60	114	6.80	623	3.91
57	9.03	130	6.69	686	3.74



OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 7-362

DATE 17/ 9/74

POSITION 48-05.6N 129-04.0W GMT 20.4

RESULTS OF XBT CAST 45 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	16.57	91	7.71	307	5.45
8	16.41	101	7.34	314	5.56
17	16.26	116	7.07	335	5.34
21	15.96	126	6.96	342	5.18
32	15.65	131	6.91	350	5.23
37	15.30	141	6.59	357	5.07
41	14.38	155	6.42	370	5.18
47	14.03	165	6.69	402	5.07
51	13.62	170	6.69	442	4.79
54	12.70	187	6.69	496	4.63
59	11.06	207	6.48	552	4.46
64	10.18	230	6.21	605	4.18
70	9.34	255	6.05	618	4.02
79	8.40	270	5.77	668	3.80
85	7.92	298	5.56	717	3.74

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS

(P-74-7)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 7

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
74	8	3	100	29.715	12.0	125-33
74	8	3	300	31.024	12.2	126- 0
74	8	3	630	31.482	14.2	126-40
74	8	3	1020	31.750	14.1	127-40
74	8	3	1340	32.079	14.6	128-40
74	8	3	1700	32.288	15.0	129-40
74	8	3	2000	32.526	15.1	130-40
74	8	3	2330	32.458	15.0	131-40
74	8	4	220	32.449	15.0	132-40
74	8	4	540	32.412	14.9	133-40
74	8	4	830	32.467	14.5	134-40
74	8	4	1140	32.537	14.5	135-40
74	8	4	1410	32.511	13.5	136-40
74	8	4	1740	32.516	13.2	137-40
74	8	4	2040	32.551	12.9	138-40
74	8	4	2340	32.568	12.5	139-40
74	8	5	215	32.565	12.3	140-40
74	8	5	600	32.558	12.0	141-40
74	8	5	915	32.588	11.5	142-40
74	8	5	1240	32.545	12.8	143-40
74	8	6	0	32.577	11.6	ON STATION
74	8	7	0	32.623	11.6	ON STATION
74	8	8	0	32.609	11.8	ON STATION
74	8	9	0	32.582	12.0	ON STATION
74	8	10	0	32.599	12.3	ON STATION
74	8	11	0	32.599	13.0	ON STATION
74	8	12	0	32.569	13.5	ON STATION
74	8	13	0	32.605	13.6	ON STATION
74	8	14	0	32.600	13.6	ON STATION
74	8	15	0	32.590	13.5	ON STATION
74	8	16	0	32.572	13.3	ON STATION
74	8	17	0	32.537	13.8	ON STATION
74	8	18	0	32.563	13.7	ON STATION
74	8	19	0	32.578	13.8	ON STATION
74	8	20	0	32.553	13.6	ON STATION
74	8	21	0	32.552	13.6	ON STATION
74	8	22	0	32.564	13.5	ON STATION
74	8	23	0	32.571	14.2	ON STATION
74	8	24	0	32.566	13.7	ON STATION
74	8	25	0	32.566	13.5	ON STATION
74	8	26	0	32.570	13.5	ON STATION
74	8	27	0	32.569	14.1	ON STATION
74	8	28	0	32.576	13.8	ON STATION
74	8	29	0	32.563	13.7	ON STATION
74	8	30	0	32.565	14.2	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 7

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
74	8	30	0	32.565	14.2	ON STATION
74	8	31	0	32.580	14.5	ON STATION
74	9	1	0	32.599	14.7	ON STATION
74	9	2	0	32.576	14.3	ON STATION
74	9	3	0	32.585	14.2	ON STATION
74	9	4	0	32.594	14.1	ON STATION
74	9	5	0	32.599	13.9	ON STATION
74	9	6	0	32.586	14.0	ON STATION
74	9	7	0	32.585	13.9	ON STATION
74	9	8	0	32.569	14.0	ON STATION
74	9	9	0	32.570	14.0	ON STATION
74	9	10	0	32.562	13.8	ON STATION
74	9	11	0	32.560	13.7	ON STATION
74	9	12	0	32.543	13.9	ON STATION
74	9	13	0	32.547	13.8	ON STATION
74	9	14	0	32.559	13.8	ON STATION
74	9	15	0	32.557	13.6	ON STATION
74	9	15	2340	32.523	13.8	143-40
74	9	16	250	32.520	14.0	142-40
74	9	16	1240	32.510	14.1	140-40
74	9	16	1625	32.567	14.4	139-40
74	9	16	1940	32.546	14.5	138-40
74	9	16	2215	32.449	14.9	137-40
74	9	17	100	32.491	15.0	136-40
74	9	17	330	32.617	15.0	135-40
74	9	17	615	32.346	15.1	134-40
74	9	17	1240	32.377	15.5	132-40
74	9	17	1445	32.474	15.6	131-40
74	9	17	1730	32.513	15.9	130-40
74	9	17	2025	32.279	16.6	129-40
74	9	17	2330	31.755	16.5	128-40
74	9	18	320	31.719	16.1	127-40
74	9	18	720	31.910	16.2	126-40

CAI EP 321
-75R05

Pacific Marine Science Report 75-5

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Publications

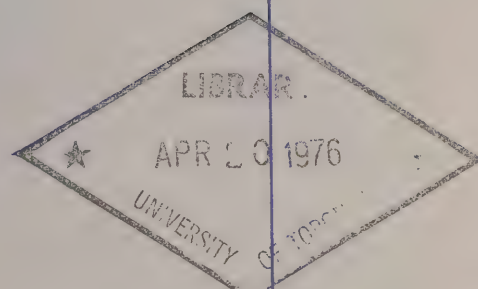
Canada Marine Science
Pacific Region

**OCEANOGRAPHIC OBSERVATIONS
AT OCEAN STATION P
(50° N, 145° W)**

Volume 62

13 September – 30 October 1974

by
B. Minkley, C. de Jong



**INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY
Victoria, B.C.**



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PACIFIC MARINE SCIENCE REPORT 75-5

OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N, 145°W)

Volume 62

13 September - 30 October 1974

by

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INSTITUTE OF OCEAN SCIENCES, PATRICIA BAY

Victoria, B.C.

October, 1975

This is a manuscript which has received only limited circulation. On citing this report in a bibliography, the title should be followed by the words "UNPUBLISHED MANUSCRIPT" which is in accordance with accepted bibliographic custom.

ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weathership at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, conductivity-temperature-pressure instruments, and mechanical and expendable bathythermographs. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (Latitude 50°00'N, Longitude 145°00'W) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the *CCGS VANCOUVER* and the *CCGS QUADRA*. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch. During part of 1974, the *CSS PARIZEAU* of the Department of the Environment replaced the *CCGS QUADRA*, while *QUADRA* was on operation GATE .

Bathythermograph observations have been made at Station P since July, 1952. A program of more extensive oceanographic observations commenced in August, 1956. This was extended in April, 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at 40', i.e. 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al*, (1969).

The present record includes hydrographic, bathythermograph and continuously sampled STP data collected from the *CSS PARIZEAU* during the period 13 September to 30 October, 1974.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, B.C., Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Department of the Environment, 512-1230 Government Street, Victoria, B.C., Canada.

PROGRAM OF OBSERVATIONS FROM *CSS PARIZEAU*, 13 September-30 October 1974 (P-74-8) (CODC REF. NO. 15-74-008)

Oceanographic observations were made by Mr. B.G. Minkley, Ocean and Aquatic Sciences, Department of the Environment.

En route to Station P, Line P stations 1, 2, 6, 7, 8, 9 and 10 were occupied and a STP profile made to near bottom or 1500 metres. All other stations were missed due to adverse weather conditions.

Salinity, nitrate, nutrient, alkalinity and total CO₂ samples were taken from the seawaterloop at all Line P stations.

Mechanical BT or XBT's were taken at all Line P and BT stations. Tarball tows were made at stations 3, 6 and 8. The thermosalinograph was run continuously.

At Station P the oceanographic program was carried out as follows:

I. Physical Oceanography

- 1) Profiles of salinity, temperature and oxygen were obtained from 4 hydrographic stations to near bottom (4200 metres).

Profiles of salinity and temperature were obtained from 2 hydrographic stations to 600 metres.

- 2) One STP profile to 1500 metres and one to 300 metres was obtained. During the end of the last cast, the power supply of the STP control console failed to function, and could not be used for the remainder of the cruise.
- 3) BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.
- 4) Salinity samples daily at 0000 hrs GMT from the seawater loop.

II. Marine Geochemistry

- 1) Samples for nutrients, tritium, alkalinity and total CO₂ were obtained from 6 depths to 500 metres. Nutrient, phosphate and salinity samples were also collected daily at 0000 hrs GMT and once every hour for a 24 hour period from the seawater loop.
- 2) Alkalinity and total CO₂ samples every 3 days from the seawater loop.
- 3) Air CO₂ samples weekly in duplicate.
- 4) Two seawater C-14 samples extracted from the seawater loop.
- 5) Four surface tarball tows were made at a speed of 4 knots. The duration of each tow was approximately 15 minutes.

III. Biological and Productivity

Samples were obtained as follows:

- 1) 32 - Nano organism samples filtered from the seawater loop

- 2) Samples for plant pigment, nitrate and C_{14} productivity were obtained from 1 station to 200 metres.

IV. Observations for Other Agencies

- 1) Marine mammal observations were made by the ship's officers for Mr. I. McAskie, Fisheries Research Board of Canada, the Biological Station, Nanaimo, B.C., Canada.
- 2) Bird observations were made by the ship's officers for Dr. M. Myres, University of Alberta, Calgary, Alberta, Canada.

En route from Station P, XBT's were taken at all Line P stations.

Salinity, nitrate, nutrient, alkalinity and total CO_2 samples were taken from the seawater loop.

The thermosalinograph was run continuously.

Due to the STP power supply failure and the loss of the Niskin bottle messengers, no other Line P work was done.

Data was processed, assembled and edited for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of German (Richter and Wiese) or Japanese (Yoshino Keiki Co.) manufacture. Two protected thermometers were used on all Nansen bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be $\pm 0.02^{\circ}\text{C}$.

Surface water temperatures were measured from a bucket sample using a deck thermometer of $\pm 0.1^{\circ}\text{C}$ accuracy.

Salinity determinations were made aboard ship with either an Auto-Lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ppt.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and $\pm 0.5\%$ of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

The ship was equipped with a Plessey Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder is situated in the dry lab. The accuracy of this instrument is believed to be $\pm 0.1^{\circ}\text{C}$ for temperature and ± 0.1 ppt for salinity.

The ship was equipped with a Plessey Model 9006 STD.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs \log_{10} depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm ²
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

REFERENCES

- Carpenter, J.H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. *Limnol. and Oceanogr.*, 10: 141-143.
- Collins, C.A., R.L. Tripe, D.A. Healey, and J. Joergensen, 1969. The time distribution of serial oceanographic data from the Ocean Station P programme. *Fish. Res. Bd. Can. Tech. Rept. No. 106.*
- Reiniger, R.F., and C.K. Ross, 1968. A method of interpolation with application to oceanographic data. *Deep Sea Res.*, 15: 185-193.
- U.S.N. Hydrographic Office, 1955. Instruction Manual for oceanographic observations, Publ. No. 607

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- Figure 6 Temperature difference between hydro data and STD. P-74-8

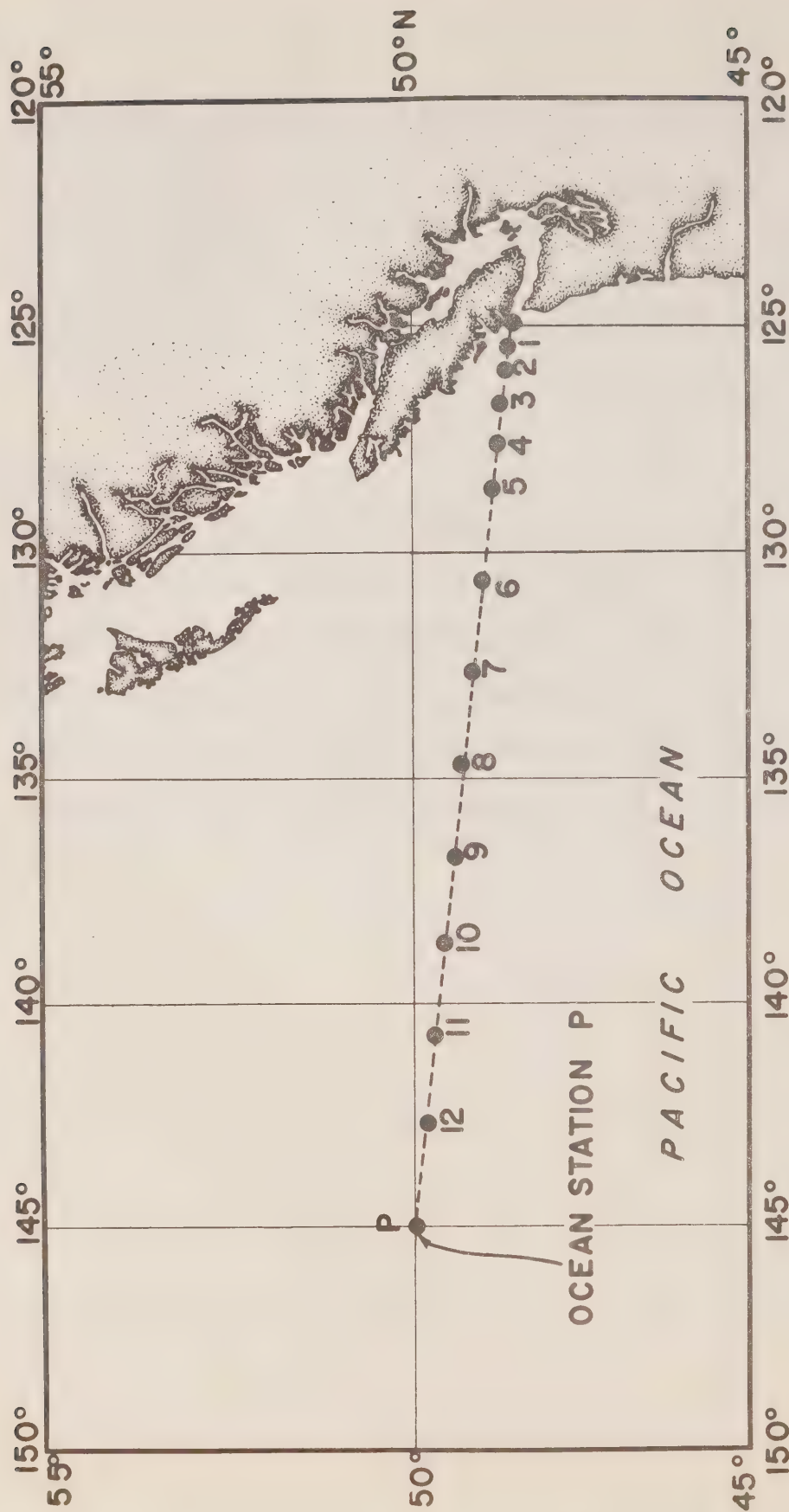


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-74-8

(CODC REFERENCE NO. 15-74-008)

RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-74-8)

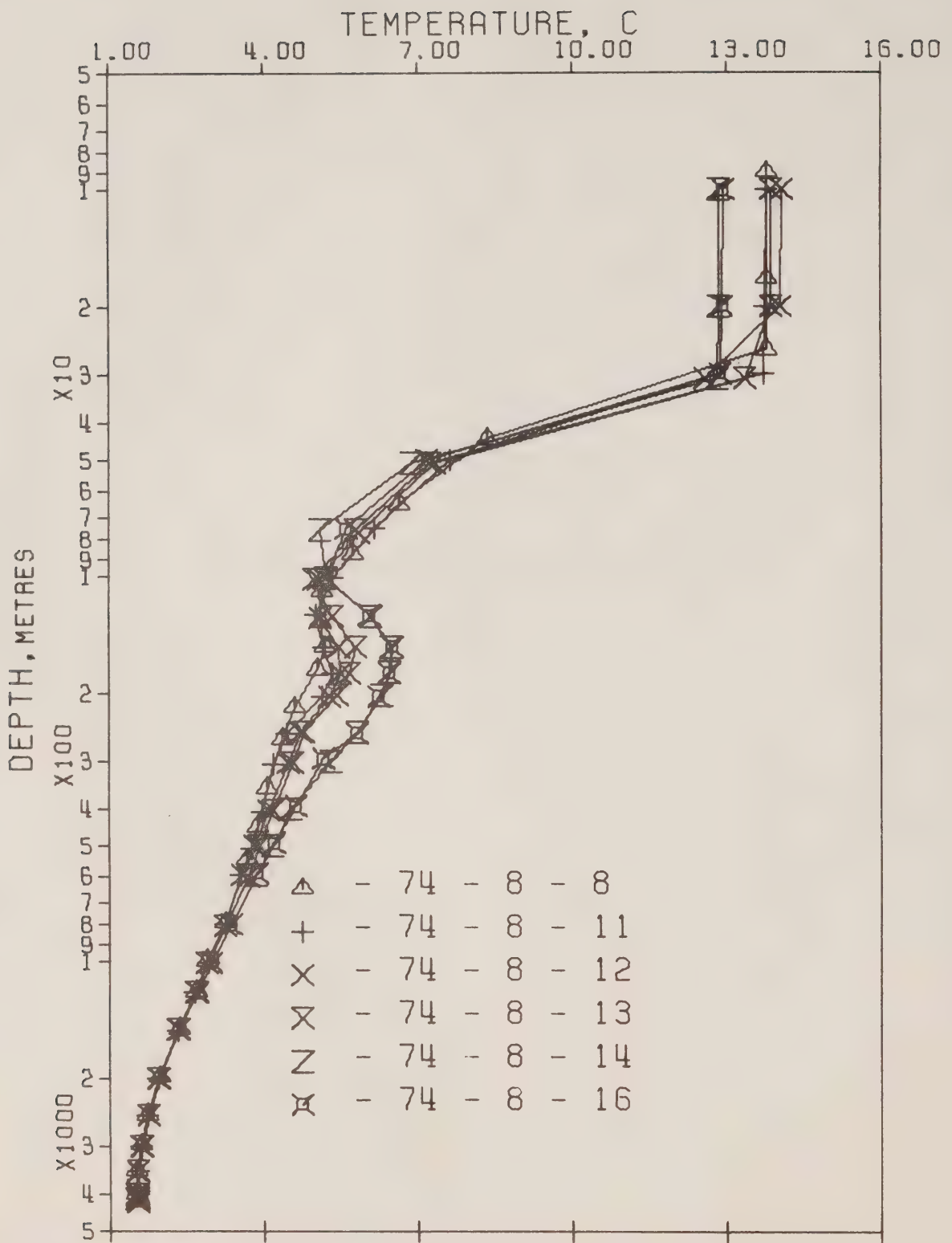


Figure 2 Composite plot of temperature vs \log_{10} depth. P-74-8

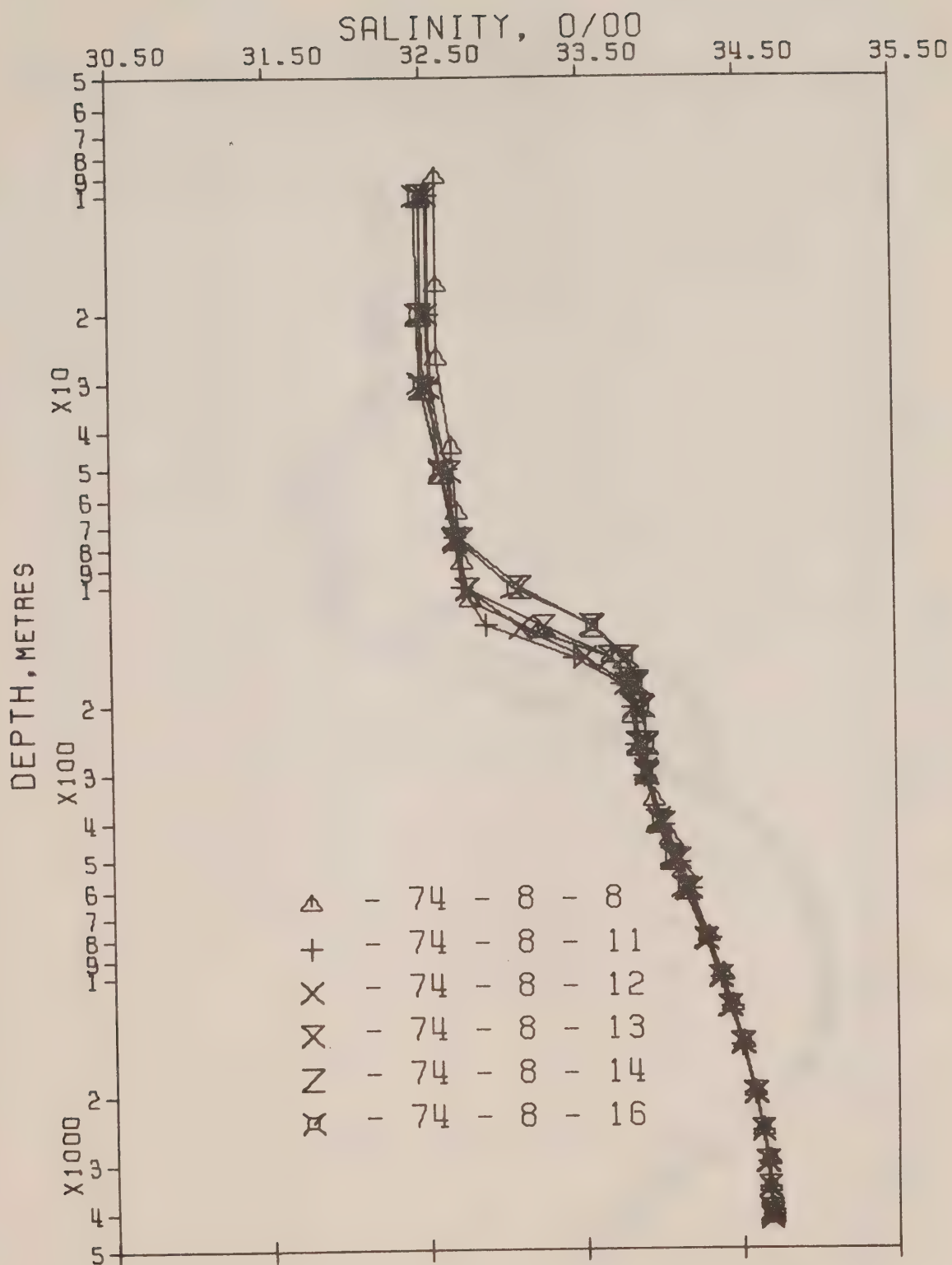


Figure 3 Composite plot of salinity vs \log_{10} depth. P-74-8

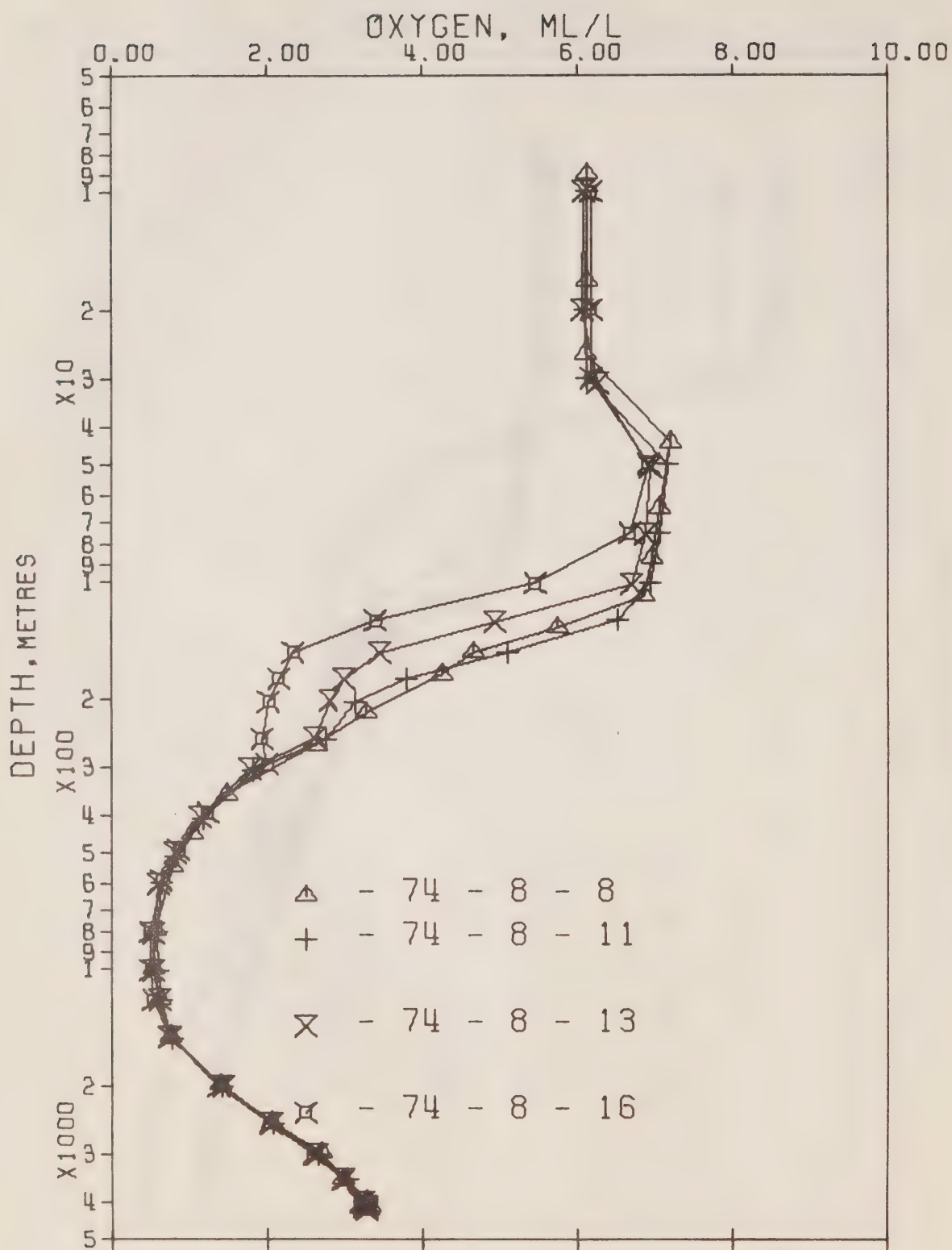
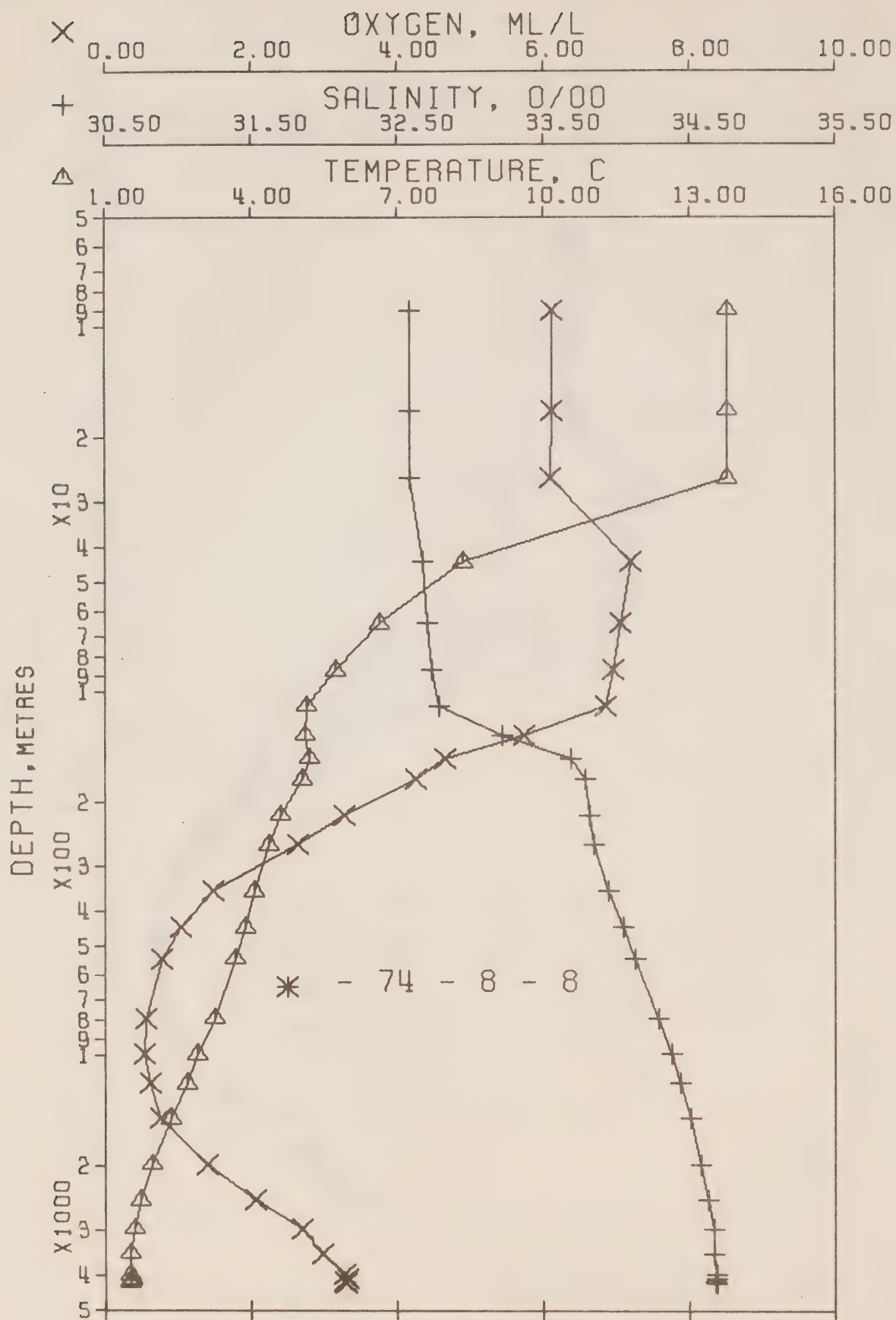


Figure 4 Composite plot of oxygen vs \log_{10} depth. P-74-8



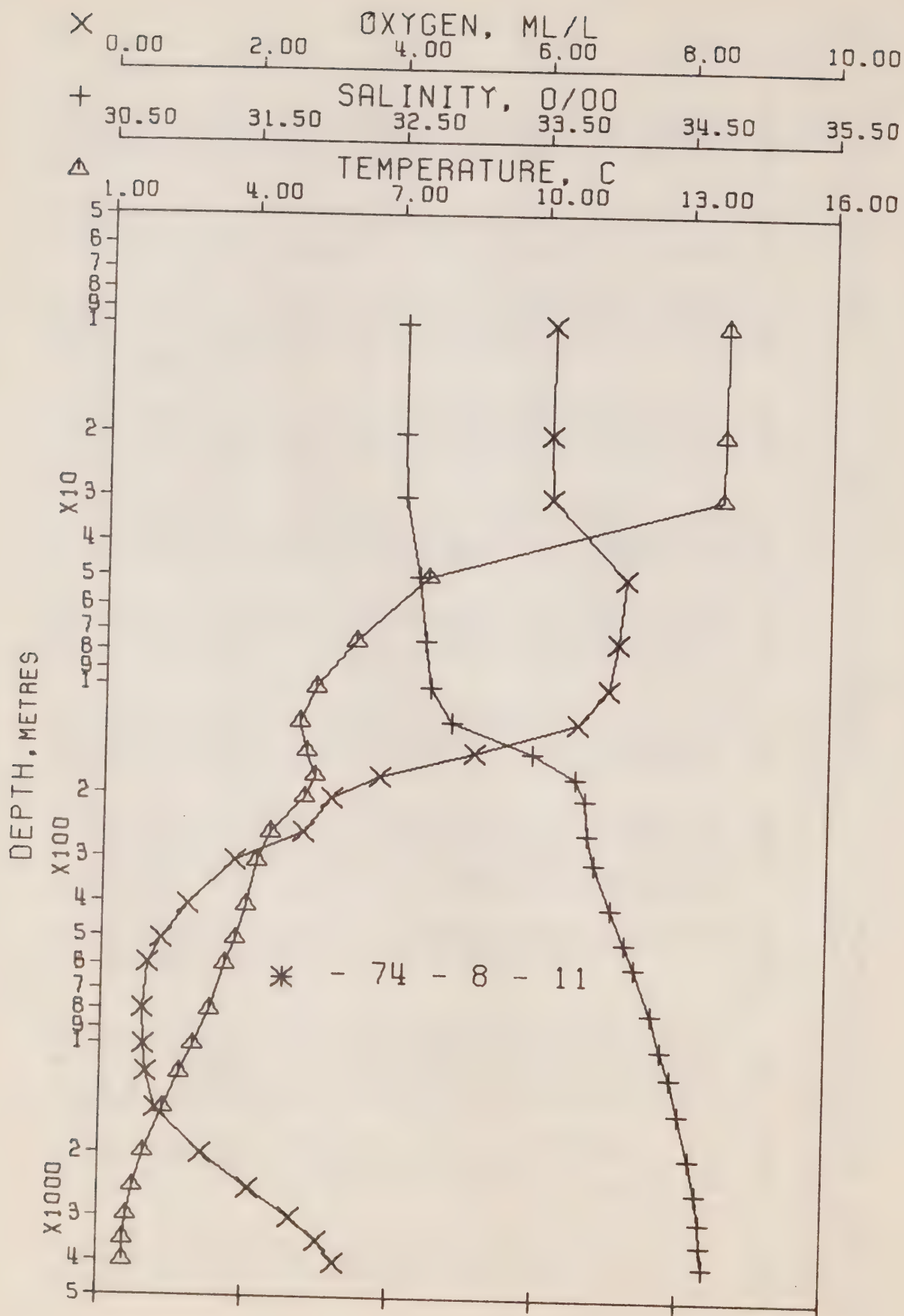
DATE 17/ 9/74

REFERENCE NO. 74- 8- 8

OFFSHORE OCEANOGRAPHY GROUP
POSITION 49-34.0 N, 144-56.0 W GMT 18.4

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.78	32.589	0	24.395	354.6	13.78	354.4	0.0	0.0	6.07	1500.
9	13.78	32.590	9	24.395	354.7	13.78	354.3	0.32	0.01	6.12	1501.
17	13.78	32.594	17	24.399	354.7	13.78	353.9	0.61	0.05	6.11	1501.
26	13.77	32.590	26	24.398	355.0	13.77	354.0	0.93	0.12	6.11	1501.
44	8.36	32.681	44	25.426	257.1	8.36	256.1	1.49	0.32	7.20	1482.
65	6.64	32.709	65	25.688	232.2	6.63	231.2	1.99	0.60	7.05	1476.
88	5.73	32.738	87	25.825	219.4	5.72	218.2	2.49	0.99	6.96	1472.
110	5.14	32.789	109	25.934	209.2	5.13	207.8	2.97	1.47	6.86	1470.
132	5.11	33.217	131	26.276	177.0	5.10	175.3	3.40	2.00	5.75	1471.
153	5.21	33.693	152	26.641	142.7	5.20	140.6	3.73	2.49	4.65	1473.
175	5.04	33.791	174	26.738	133.7	5.03	131.4	4.04	3.00	4.26	1472.
220	4.60	33.824	218	26.813	126.8	4.58	124.3	4.61	4.15	3.28	1471.
265	4.36	33.850	263	26.859	122.7	4.34	119.8	5.17	5.55	2.64	1471.
356	4.07	33.951	353	26.970	112.8	4.04	109.3	6.24	8.93	1.49	1472.
449	3.88	34.051	445	27.069	104.1	3.85	99.8	7.25	13.05	1.03	1472.
545	3.67	34.131	541	27.153	96.7	3.63	91.8	8.22	17.97	0.78	1473.
796	3.26	34.291	789	27.320	82.2	3.20	75.9	10.45	33.20	0.56	1476.
1000	2.90	34.381	990	27.425	73.0	2.83	65.9	12.02	47.57	0.54	1478.
1202	2.67	34.437	1190	27.490	67.5	2.59	59.6	13.43	63.48	0.61	1480.
1505	2.35	34.506	1489	27.572	60.4	2.25	51.7	15.37	90.15	0.75	1484.
2011	1.96	34.584	1987	27.666	52.2	1.82	42.6	18.19	140.77	1.40	1491.
2519	1.73	34.634	2485	27.724	47.6	1.55	36.9	20.71	198.87	2.05	1498.
3027	1.59	34.666	2983	27.760	45.0	1.37	33.2	23.05	264.98	2.71	1506.
3537	1.52	34.674	3482	27.771	44.9	1.25	31.8	25.33	341.45	2.97	1515.
4051	1.52	34.688	3983	27.783	45.2	1.19	30.4	27.63	430.28	3.28	1524.
4155	1.54	34.688	4084	27.781	45.9	1.20	30.4	28.10	450.04	3.31	1526.
4247	1.52	34.682	4174	27.778	46.2	1.17	30.6	28.53	468.47	3.29	1527.
4257	1.52	34.689	4184	27.783	45.7	1.17	30.1	28.58	470.52	3.30	1527.



DATE 23/ 9/74

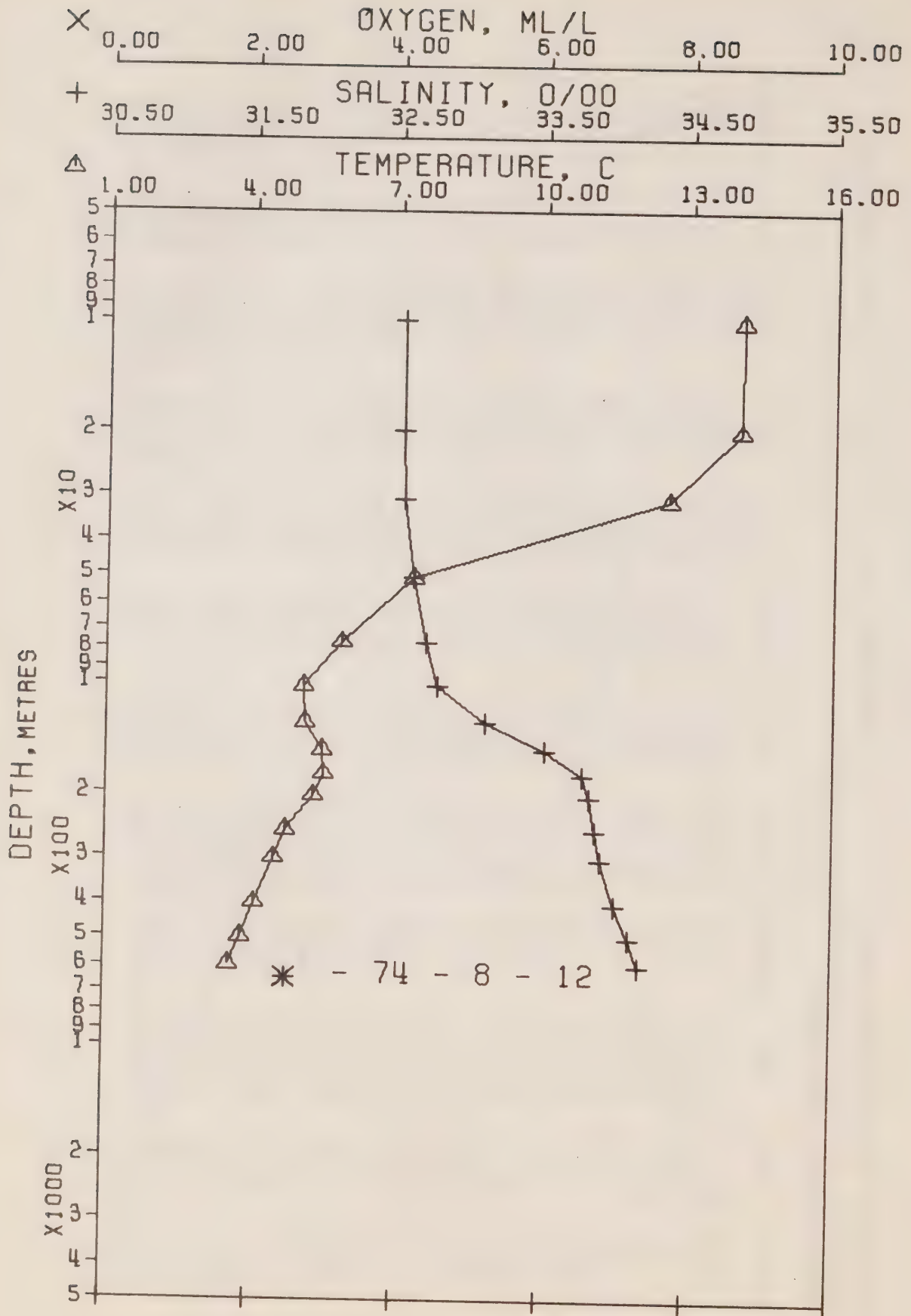
REFERENCE NO. 74- 8- 11

OFFSHORE OCEANOGRAPHY GROUP

POSITION 50-12.0 N, 145-10.0 W GMT 18.0

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.75	32.542	0	24.365	357.4	13.75	357.2	0.0	0.0	6.12	1500.
10	13.77	32.544	10	24.362	357.9	13.77	357.5	0.36	0.02	6.11	1501.
20	13.75	32.542	20	24.365	357.9	13.75	357.2	0.72	0.07	6.10	1501.
30	13.73	32.546	30	24.372	357.5	13.73	356.5	1.08	0.17	6.13	1501.
50	7.63	32.655	50	25.512	249.0	7.63	248.0	1.70	0.41	7.17	1479.
75	6.15	32.698	75	25.742	227.2	6.14	226.0	2.28	0.79	7.06	1474.
102	5.34	32.740	101	25.872	214.9	5.33	213.6	2.85	1.31	6.94	1471.
127	5.01	32.889	126	26.027	200.4	5.00	198.9	3.38	1.93	6.53	1470.
153	5.16	33.454	152	26.457	160.0	5.15	158.1	3.85	2.60	5.10	1472.
179	5.34	33.750	178	26.670	140.2	5.33	137.8	4.24	3.25	3.80	1474.
205	5.13	33.821	204	26.751	132.8	5.11	130.1	4.60	3.95	3.15	1473.
258	4.45	33.837	256	26.839	124.5	4.43	121.7	5.27	5.54	2.77	1471.
310	4.17	33.889	308	26.910	118.1	4.15	115.0	5.90	7.38	1.81	1471.
413	3.96	34.008	410	27.026	107.9	3.93	103.9	7.06	11.66	1.17	1472.
512	3.77	34.112	508	27.128	98.9	3.73	94.2	8.09	16.48	0.81	1473.
603	3.55	34.184	598	27.207	91.9	3.51	86.7	8.95	21.40	0.63	1474.
810	3.24	34.302	803	27.331	81.3	3.18	74.9	10.73	34.24	0.58	1476.
1014	2.91	34.373	1004	27.418	73.8	2.84	66.5	12.31	48.87	0.60	1478.
1216	2.65	34.441	1204	27.495	67.1	2.57	59.2	13.73	65.04	0.64	1480.
1521	2.33	34.505	1504	27.573	60.3	2.23	51.6	15.66	91.94	0.79	1484.
2028	1.94	34.585	2003	27.669	52.0	1.80	42.4	18.48	143.00	1.43	1491.
2536	1.72	34.632	2502	27.723	47.7	1.54	37.0	21.00	201.53	2.09	1499.
3047	1.60	34.660	3003	27.754	45.7	1.37	33.7	23.37	269.12	2.67	1507.
3562	1.53	34.674	3506	27.771	45.1	1.25	31.8	25.70	347.53	3.04	1515.
4083	1.53	34.686	4014	27.780	45.7	1.20	30.6	28.06	439.57	3.28	1524.



DATE 27/ 9/74

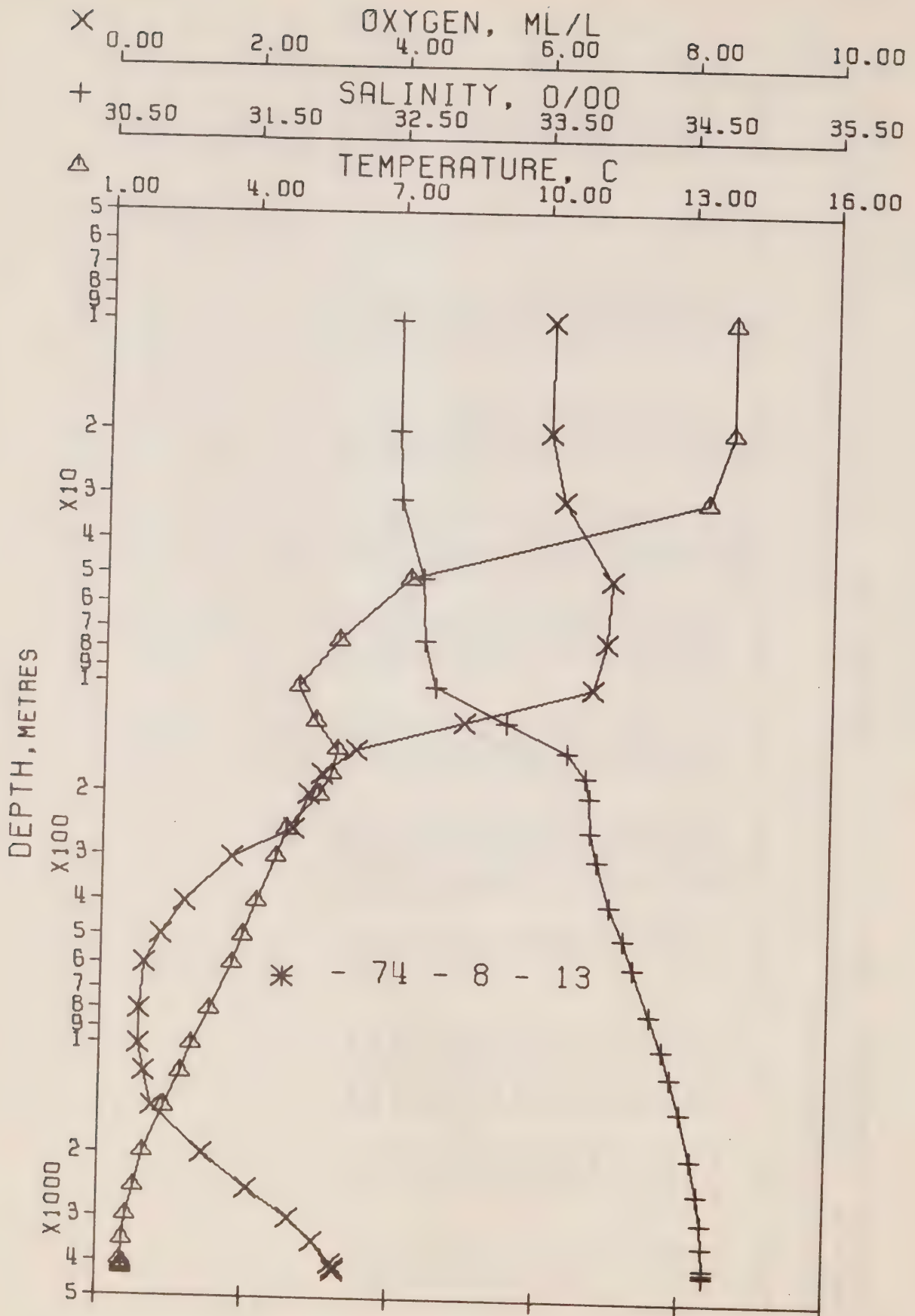
REFERENCE NO. 74- 8- 12

OFFSHORE OCEANOGRAPHY GROUP

POSITION 48-33.8 N, 144-44.7 W GMT 17.9

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	14.06	32.532	0	24.293	364.2	14.06	364.0	0.0	0.0		1501.
10	14.08	32.534	10	24.291	364.8	14.08	364.2	0.37	0.02		1502.
20	14.05	32.534	20	24.297	364.4	14.05	363.6	0.73	0.08		1502.
31	12.59	32.536	31	24.590	336.8	12.59	335.7	1.12	0.18		1497.
51	7.32	32.613	51	25.522	248.0	7.32	247.0	1.71	0.42		1478.
77	5.85	32.705	77	25.784	223.2	5.84	222.1	2.31	0.82		1473.
103	5.07	32.777	102	25.932	209.3	5.06	208.0	2.85	1.32		1470.
129	5.10	33.114	128	26.195	184.6	5.09	183.0	3.37	1.93		1471.
154	5.47	33.520	153	26.473	158.6	5.46	156.6	3.80	2.55		1473.
179	5.50	33.783	178	26.677	139.6	5.49	137.1	4.18	3.18		1474.
205	5.29	33.835	204	26.743	133.6	5.27	130.9	4.53	3.88		1474.
256	4.71	33.874	254	26.840	124.6	4.69	121.6	5.18	5.40		1472.
306	4.47	33.911	304	26.896	119.7	4.45	116.3	5.79	7.16		1472.
407	4.09	34.015	404	27.019	108.7	4.05	104.6	6.95	11.35		1473.
506	3.81	34.108	502	27.121	99.6	3.77	94.9	7.97	16.13		1473.
603	3.58	34.176	598	27.198	92.8	3.54	87.6	8.91	21.39		1474.



DATE 30/ 9/74

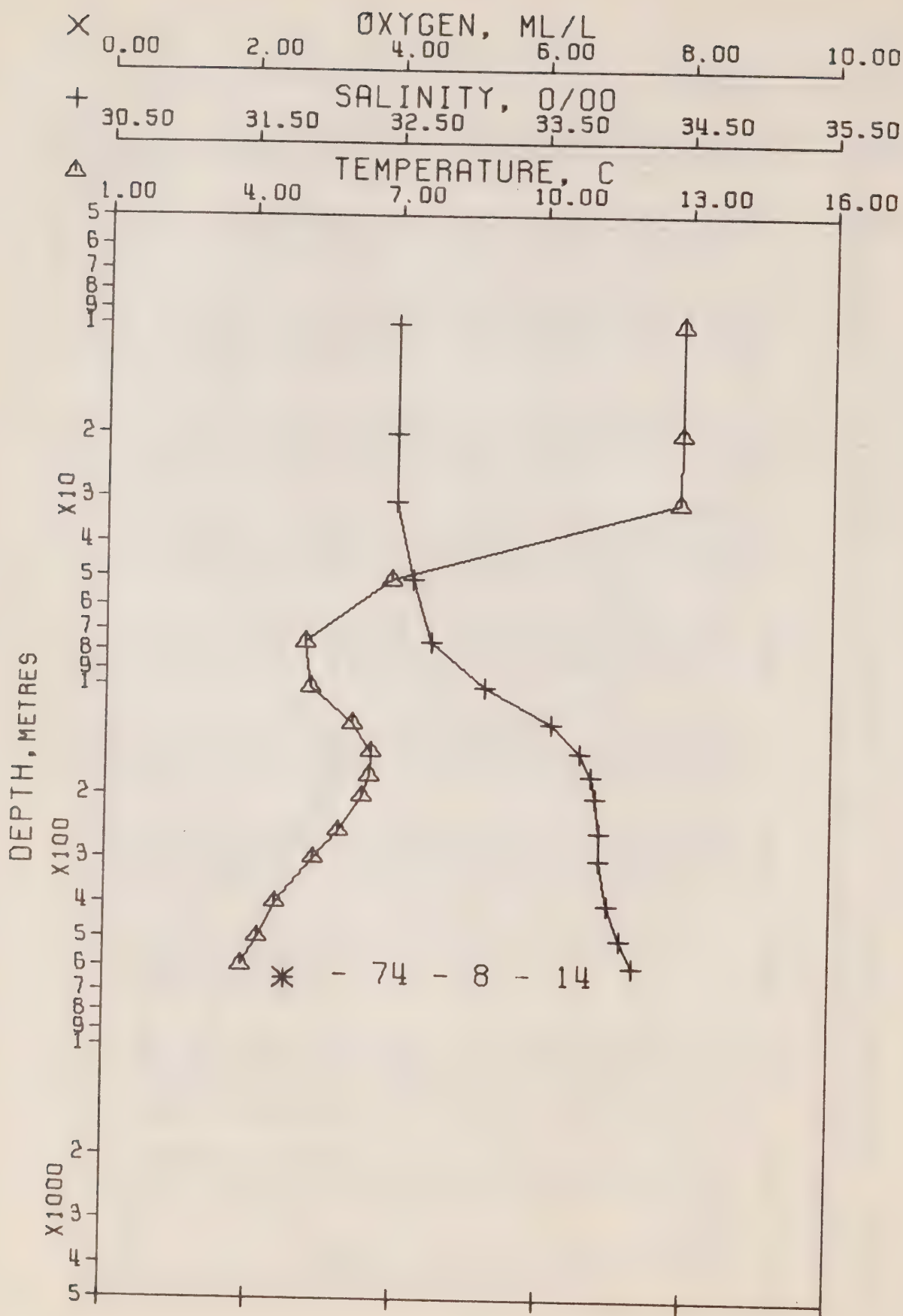
REFERENCE NO. 74- 8- 13

OFFSHORE OCEANOGRAPHY GROUP

POSITION 50- 9.0 N, 145- 9.0 W GMT 17.9

HYDROGRAPHIC CAST DATA

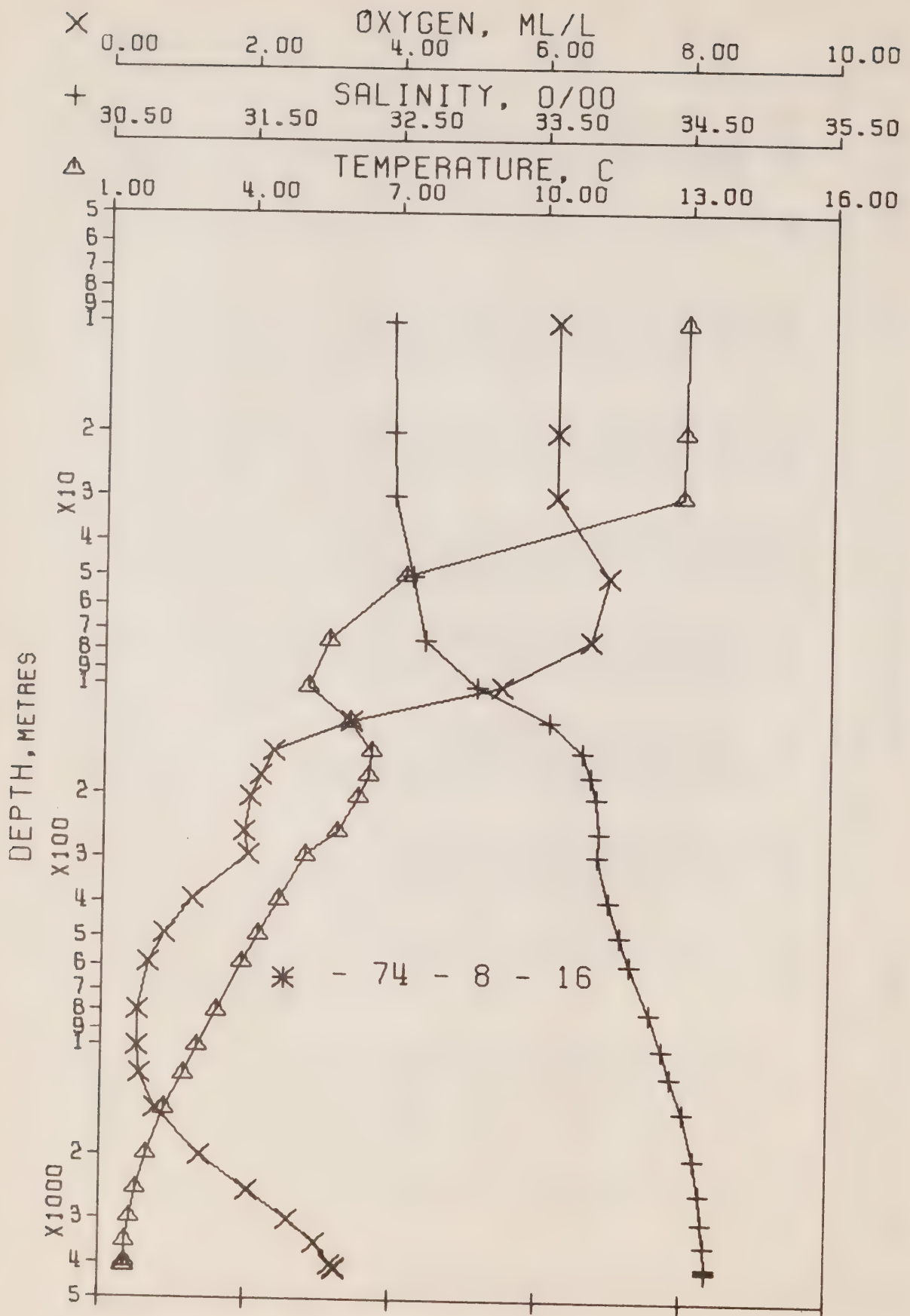
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	13.38	32.492	0	24.300	363.7	13.88	363.5	0.0	0.0	6.07	1501.
10	13.88	32.491	10	24.299	363.9	13.88	363.5	0.37	0.02	6.07	1501.
20	13.87	32.489	20	24.299	364.2	13.87	363.4	0.73	0.08	6.06	1501.
31	13.35	32.513	31	24.423	352.6	13.35	351.6	1.13	0.18	6.26	1499.
51	7.23	32.673	51	25.581	242.4	7.23	241.4	1.73	0.43	6.93	1478.
76	5.81	32.686	76	25.774	224.1	5.80	223.0	2.30	0.80	6.88	1472.
103	5.00	32.774	102	25.938	208.7	4.99	207.5	2.87	1.32	6.70	1470.
128	5.35	33.258	127	26.280	176.6	5.34	174.9	3.35	1.89	4.94	1472.
153	5.80	33.679	152	26.559	150.6	5.79	148.4	3.76	2.48	3.46	1475.
179	5.69	33.813	178	26.678	139.6	5.67	137.1	4.14	3.11	2.99	1475.
204	5.43	33.840	203	26.731	134.8	5.41	132.0	4.48	3.79	2.82	1475.
255	4.79	33.847	253	26.810	127.5	4.77	124.5	5.14	5.33	2.61	1473.
305	4.57	33.896	303	26.873	121.9	4.55	118.5	5.77	7.13	1.79	1473.
406	4.18	33.987	403	26.987	111.7	4.15	107.6	6.95	11.40	1.13	1473.
506	3.91	34.088	502	27.095	102.1	3.87	97.3	8.02	16.35	0.81	1474.
605	3.69	34.160	600	27.174	95.2	3.65	89.8	8.99	21.88	0.60	1474.
813	3.26	34.283	806	27.314	83.0	3.20	76.4	10.84	35.23	0.54	1476.
1015	2.90	34.373	1005	27.419	73.7	2.83	66.5	12.41	49.85	0.55	1478.
1215	2.68	34.433	1203	27.486	67.9	2.60	60.0	13.82	65.94	0.63	1480.
1518	2.34	34.500	1501	27.568	60.8	2.24	52.1	15.76	92.94	0.74	1484.
2025	1.93	34.582	2000	27.667	52.1	1.79	42.5	18.60	144.08	1.44	1491.
2535	1.74	34.628	2501	27.718	48.2	1.56	37.4	21.14	203.22	2.07	1499.
3046	1.60	34.658	3002	27.753	45.8	1.37	33.8	23.53	271.30	2.64	1507.
3560	1.53	34.670	3504	27.768	45.4	1.25	32.2	25.86	349.82	2.99	1515.
4075	1.52	34.678	4006	27.775	46.1	1.19	31.1	28.21	440.89	3.25	1524.
4178	1.54	34.679	4107	27.774	46.5	1.20	31.1	28.69	461.09	3.28	1526.
4271	1.53	34.680*	4197	27.775	46.6	1.18	30.9	29.12	479.62		1527.
4281	1.53	34.680	4207	27.776	46.6	1.17	30.8	29.16	481.70	3.28	1528.



OFFSHORE OCEANOGRAPHY GROUP
 POSITION 50- 5.0 N, 144-46.0 W GMT 18.0
 HYDROGRAPHIC CAST DATA

REFERENCE NO. 74- 8- 14 DATE 3/10/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.83	32.496	0	24.512	343.4	12.83	343.2	0.0	0.0		1497.
10	12.84	32.494	10	24.509	343.9	12.84	343.5	0.35	0.02		1497.
20	12.84	32.493	20	24.508	344.3	12.84	343.5	0.69	0.07		1498.
31	12.82	32.493	31	24.512	344.1	12.82	343.1	1.07	0.17		1498.
51	6.88	32.610	51	25.579	242.5	6.88	241.5	1.67	0.42		1476.
76	5.12	32.744	76	25.900	212.0	5.11	211.0	2.23	0.78		1470.
102	5.24	33.106	101	26.173	186.4	5.23	185.1	2.73	1.24		1471.
128	6.09	33.568	127	26.435	162.1	6.08	160.2	3.18	1.77		1476.
153	6.50	33.769	152	26.541	152.5	6.49	150.1	3.57	2.33		1478.
178	6.47	33.848	177	26.607	146.7	6.45	143.8	3.95	2.97		1478.
203	6.31	33.880	202	26.653	142.6	6.29	139.4	4.31	3.67		1478.
254	5.84	33.912	252	26.738	135.0	5.82	131.3	5.01	5.30		1477.
303	5.31	33.908	301	26.799	129.4	5.29	125.5	5.67	7.16		1476.
403	4.54	33.968	400	26.934	117.2	4.51	112.7	6.90	11.58		1474.
503	4.18	34.058	499	27.043	107.3	4.14	102.2	8.02	16.76		1475.
603	3.85	34.149	598	27.150	97.8	3.81	92.1	9.04	22.53		1475.



DATE 7/10/74

REFERENCE NO. 74- 8- 16

OFFSHORE OCEANOGRAPHY GROUP

POSITION 50-15.0 N, 144-36.0 W GMT 18.2

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.93	32.460	0	24.465	347.9	12.93	347.6	0.0	0.0	6.17	1497.
10	12.93	32.463	10	24.467	347.9	12.93	347.4	0.35	0.02	6.17	1498.
20	12.92	32.468	20	24.473	347.6	12.92	346.8	0.70	0.07	6.17	1498.
30	12.87	32.481	30	24.493	345.9	12.87	344.9	1.05	0.16	6.18	1498.
50	7.19	32.606	50	25.534	246.8	7.19	245.8	1.65	0.40	6.92	1477.
75	5.62	32.704	75	25.811	220.6	5.61	219.5	2.23	0.78	6.68	1472.
102	5.20	33.063	101	26.144	189.2	5.19	187.9	2.76	1.26	5.45	1471.
127	6.07	33.564	126	26.435	162.2	6.06	160.2	3.20	1.77	3.41	1476.
153	6.51	33.789	152	26.555	151.2	6.50	148.7	3.61	2.35	2.34	1478.
179	6.45	33.849	178	26.610	146.3	6.43	143.4	4.00	3.01	2.16	1478.
205	6.25	33.886	204	26.666	141.4	6.23	138.2	4.37	3.75	2.03	1478.
257	5.82	33.912	255	26.740	134.7	5.80	131.1	5.08	5.42	1.94	1477.
298	5.17	33.901	296	26.810	128.3	5.15	124.5	5.63	6.96	2.01	1475.
397	4.62	33.976	394	26.931	117.4	4.59	113.0	6.84	11.25	1.23	1475.
496	4.20	34.059	492	27.042	107.4	4.16	102.4	7.95	16.30	0.87	1475.
595	3.88	34.133	590	27.134	99.2	3.84	93.6	8.97	21.98	0.65	1475.
810	3.37	34.269	803	27.292	85.2	3.31	78.5	10.94	36.11	0.49	1476.
1013	2.99	34.357	1003	27.398	75.8	2.92	68.4	12.56	51.18	0.51	1478.
1215	2.72	34.424	1203	27.475	69.1	2.64	61.0	14.03	67.82	0.54	1481.
1520	2.33	34.506	1503	27.574	60.2	2.23	51.5	15.99	95.10	0.75	1484.
2029	1.96	34.586	2004	27.668	52.2	1.82	42.4	18.81	146.18	1.39	1491.
2539	1.75	34.628	2505	27.718	48.4	1.57	37.4	21.36	205.57	2.04	1499.
3050	1.62	34.654	3005	27.748	46.4	1.39	34.3	23.77	274.24	2.59	1507.
3562	1.54	34.670	3506	27.767	45.5	1.26	32.2	26.12	353.38	2.98	1515.
4075	1.53	34.682	4006	27.777	45.9	1.20	30.8	28.46	444.46	3.19	1524.
4167	1.53	34.685	4096	27.780	46.0	1.19	30.6	28.88	462.13	3.27	1526.
4177	1.52	34.676	4106	27.773	46.4	1.18	31.2	28.92	464.15	3.26	1526.

RESULTS OF STP OBSERVATIONS

(P-74-8)

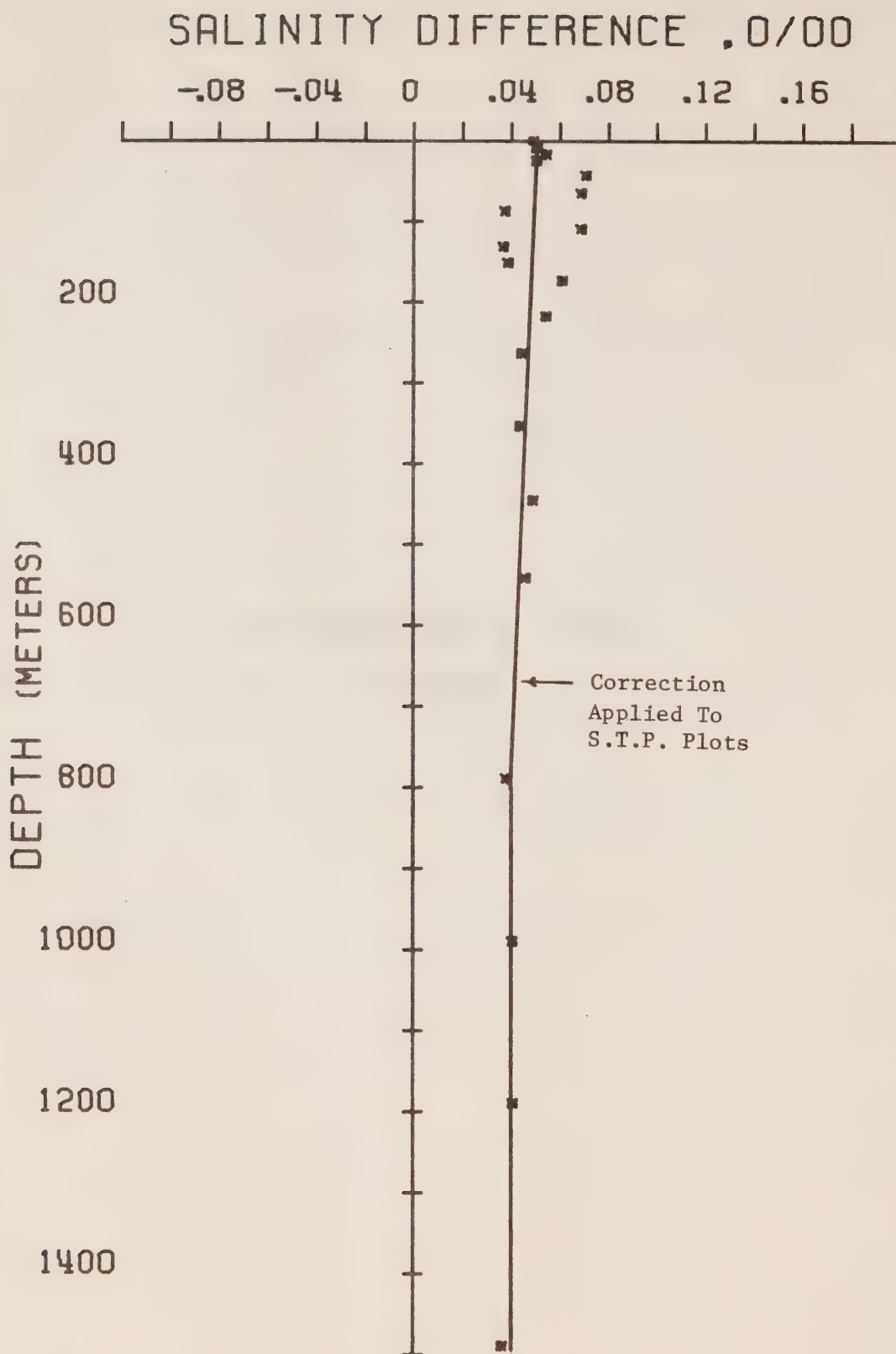


Figure 5 Salinity difference between hydro data and STD. P-74-8

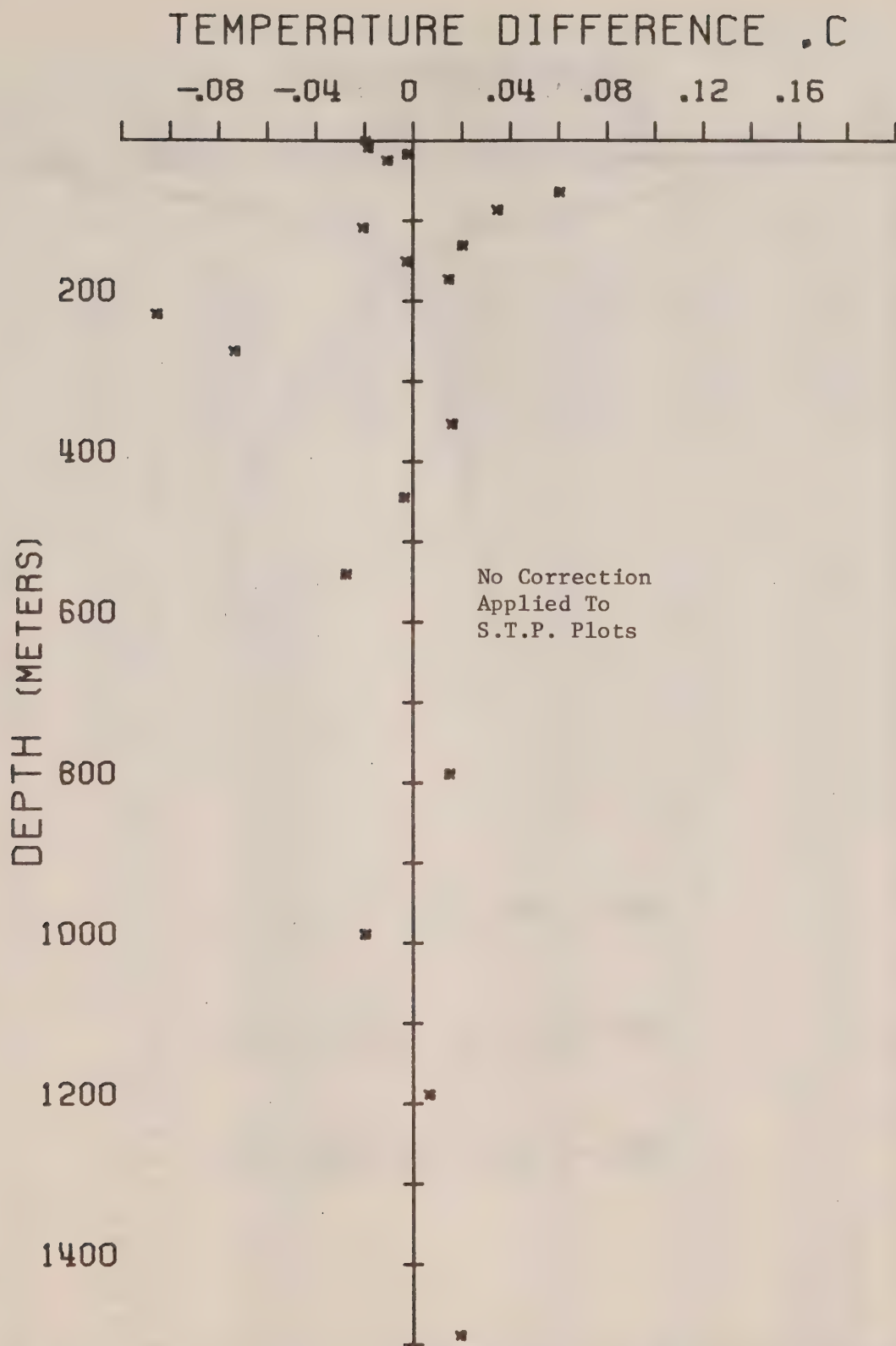
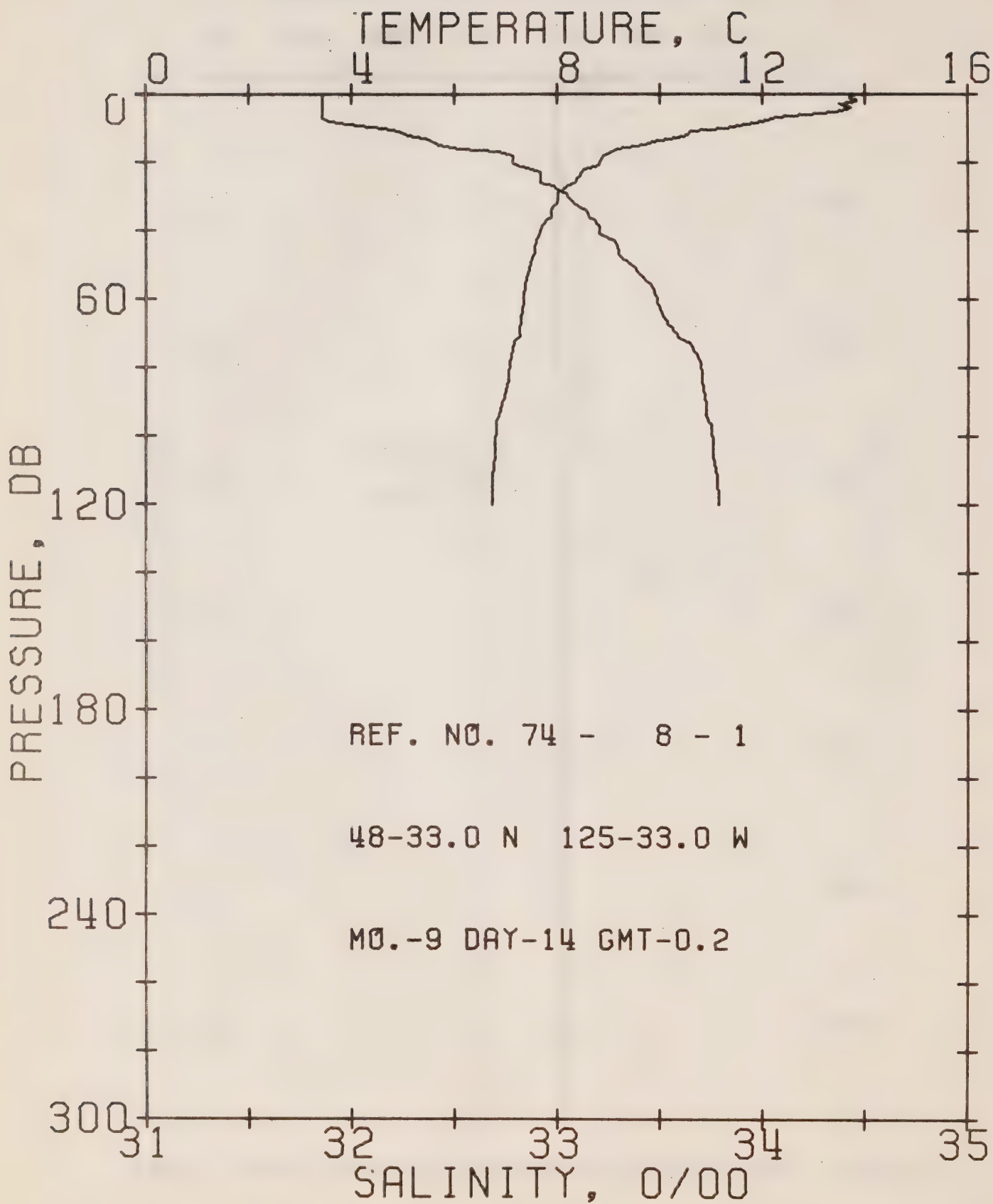


Figure 6 Temperature difference between hydro data and STD. P-74-8



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 8- 1

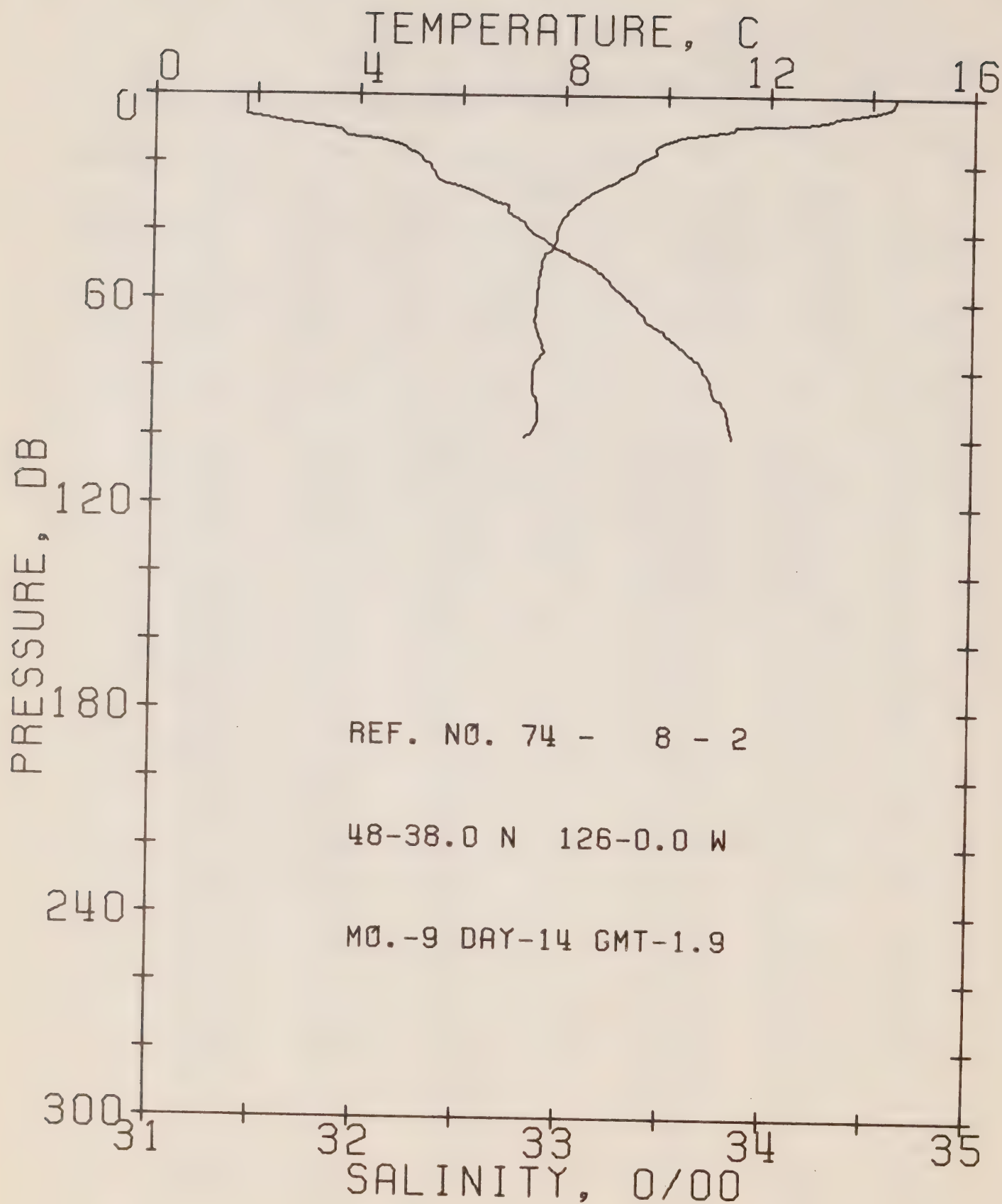
DATE 14/ 9/74

POSITION 48-33.0N, 125-33.0W GMT 0.2

RESULTS OF STP CAST 72 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.80	31.86	0	23.83	408.3	0.0	0.0	1500.
10	11.29	32.16	10	24.54	341.0	0.39	0.02	1492.
20	8.85	32.79	20	25.44	255.7	0.68	0.06	1484.
30	8.02	33.05	30	25.77	224.3	0.92	0.12	1481.
50	7.48	33.37	50	26.09	193.7	1.34	0.29	1480.
75	7.14	33.67	75	26.38	167.1	1.79	0.58	1479.
100	6.83	33.75	99	26.48	157.5	2.19	0.94	1478.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	13.80	31.86	43.	7.60	33.28
1.	13.70	31.86	46.	7.58	33.30
2.	13.85	31.86	47.	7.57	33.30
3.	13.53	31.86	48.	7.51	33.32
4.	13.72	31.86	50.	7.48	33.37
5.	13.42	31.86	53.	7.44	33.41
6.	12.84	31.86	54.	7.41	33.43
7.	12.26	31.86	56.	7.39	33.46
8.	11.99	31.90	60.	7.35	33.49
9.	11.69	31.99	61.	7.35	33.49
10.	11.29	32.16	64.	7.33	33.51
11.	10.62	32.24	65.	7.31	33.52
12.	10.52	32.28	66.	7.30	33.53
13.	10.31	32.36	70.	7.27	33.58
14.	9.86	32.41	71.	7.27	33.59
15.	9.71	32.43	72.	7.20	33.63
16.	9.17	32.53	73.	7.18	33.65
17.	9.09	32.72	75.	7.14	33.67
18.	8.90	32.79	77.	7.12	33.69
20.	8.85	32.79	79.	7.09	33.70
21.	8.83	32.81	83.	7.07	33.71
22.	8.54	32.88	84.	7.06	33.71
23.	8.50	32.92	89.	6.98	33.72
26.	8.35	32.92	91.	6.92	33.73
27.	8.22	32.99	93.	6.91	33.73
28.	8.11	33.01	94.	6.89	33.73
29.	8.03	33.04	96.	6.84	33.74
31.	8.02	33.07	97.	6.84	33.75
32.	8.01	33.09	100.	6.83	33.75
33.	7.94	33.11	101.	6.81	33.76
34.	7.89	33.14	105.	6.80	33.76
35.	7.89	33.15	106.	6.80	33.76
36.	7.89	33.16	112.	6.76	33.78
37.	7.80	33.18	113.	6.76	33.78
39.	7.72	33.21	119.	6.74	33.79
41.	7.67	33.21	120.	6.74	33.79



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REFERENCE NO. 74- 8- 2

DATE 14/ 9/74

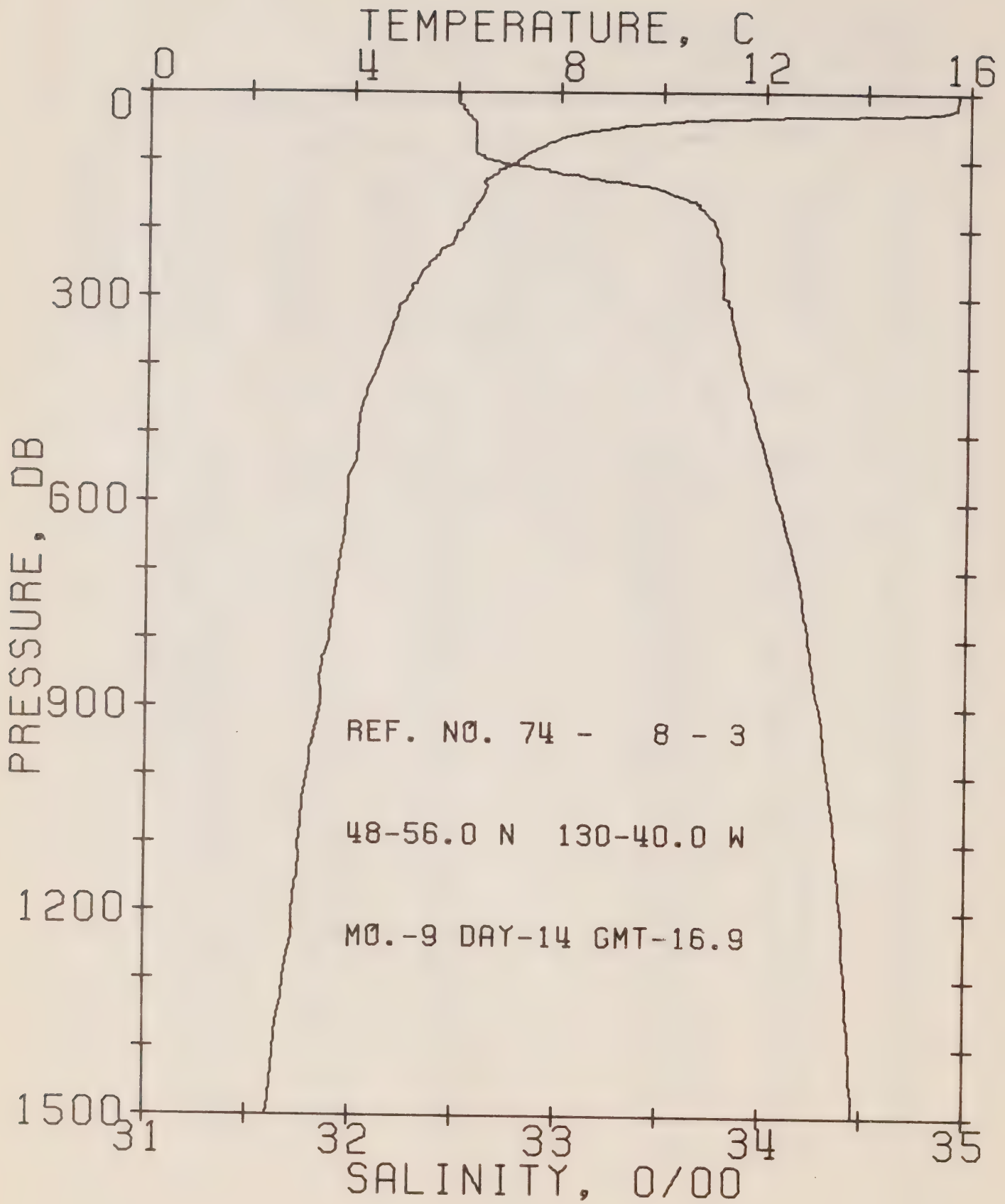
POSITION 48-38.0N, 126- 0.0W GMT 1.9

RESULTS OF STP CAST

63 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.46	31.45	0	23.38	451.4	0.0	0.0	1501.
10	11.29	31.91	10	24.35	359.4	0.43	0.02	1491.
20	9.44	32.34	20	24.99	298.0	0.75	0.07	1485.
30	8.30	32.63	30	25.38	261.1	1.03	0.14	1482.
50	7.57	33.14	50	25.90	212.1	1.50	0.33	1480.
75	7.62	33.61	75	26.26	178.2	1.99	0.64	1481.
100	7.28	33.83	99	26.48	157.5	2.40	1.01	1480.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	14.46	31.45	40.	7.86	32.85
1.	14.46	31.45	42.	7.87	32.91
3.	14.39	31.45	44.	7.82	32.95
4.	14.12	31.45	45.	7.75	32.99
5.	13.67	31.45	46.	7.65	33.02
6.	13.28	31.45	47.	7.62	33.03
7.	13.22	31.54	49.	7.58	33.11
8.	12.68	31.64	50.	7.57	33.14
9.	11.33	31.75	52.	7.55	33.19
10.	11.29	31.91	54.	7.51	33.22
12.	10.26	31.94	55.	7.51	33.23
13.	10.13	32.10	59.	7.50	33.30
14.	9.89	32.18	60.	7.49	33.33
15.	9.82	32.22	64.	7.46	33.39
16.	9.77	32.24	66.	7.45	33.41
17.	9.78	32.28	69.	7.49	33.49
18.	9.66	32.30	70.	7.53	33.50
19.	9.53	32.31	72.	7.56	33.55
20.	9.44	32.34	75.	7.62	33.61
21.	9.41	32.35	78.	7.47	33.67
22.	9.37	32.36	81.	7.42	33.69
23.	9.25	32.37	82.	7.41	33.71
24.	9.10	32.38	84.	7.41	33.72
25.	9.00	32.41	87.	7.42	33.73
27.	8.76	32.51	88.	7.46	33.74
28.	8.58	32.57	89.	7.48	33.77
30.	8.39	32.63	91.	7.51	33.79
31.	8.32	32.66	92.	7.51	33.80
32.	8.22	32.73	95.	7.51	33.81
34.	8.07	32.73	98.	7.44	33.82
37.	7.96	32.80	100.	7.28	33.83
39.	7.89	32.83			



OFFSHORE OCEANOGRAPHY GROUP

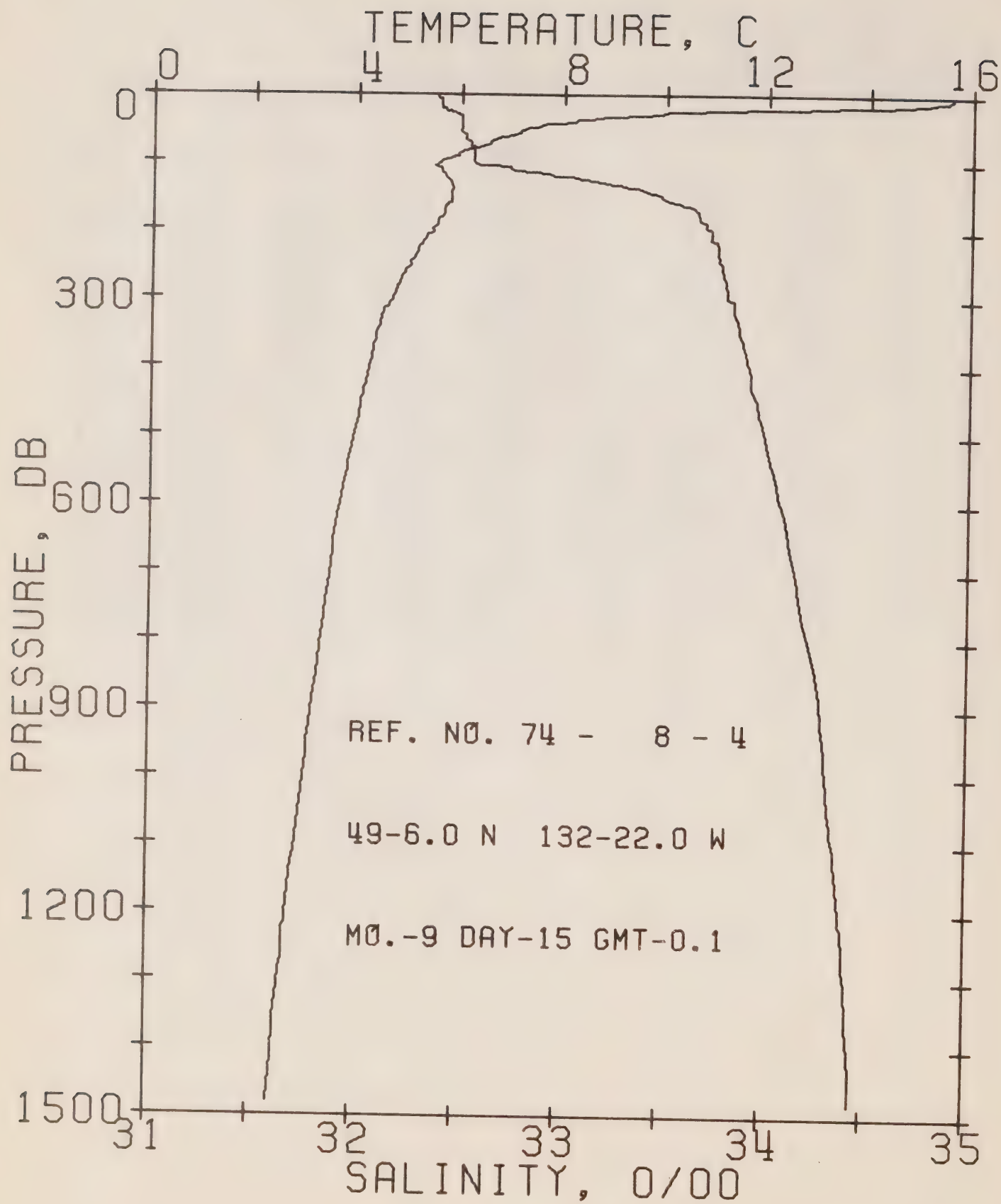
REFERENCE NO. 74- 8- 3

DATE 14/ 9/74

POSITION 48-56.0N, 130-40.0W GMT 16.9

RESULTS OF STP CAST 209 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	15.76	32.51	0	23.91	400.4	0.0	0.0	1507.
10	15.75	32.51	10	23.91	400.6	0.40	0.02	1507.
20	15.73	32.53	20	23.93	399.3	0.80	0.08	1507.
30	14.70	32.55	30	24.17	376.5	1.19	0.18	1504.
50	9.18	32.59	50	25.23	276.1	1.81	0.43	1485.
75	7.74	32.59	75	25.45	255.6	2.47	0.85	1480.
100	7.17	32.70	99	25.61	240.2	3.09	1.41	1478.
125	6.59	33.14	124	26.03	200.3	3.65	2.04	1477.
150	6.51	33.57	149	26.39	167.2	4.10	2.66	1478.
175	6.29	33.71	174	26.52	154.5	4.49	3.32	1477.
200	6.07	33.77	199	26.60	147.8	4.87	4.04	1477.
225	5.82	33.79	224	26.64	143.4	5.24	4.83	1476.
250	5.47	33.79	248	26.69	139.4	5.59	5.69	1475.
300	5.03	33.81	298	26.75	133.4	6.27	7.60	1474.
400	4.47	33.89	357	26.88	121.8	7.54	12.11	1474.
500	4.11	33.98	496	26.99	112.0	8.70	17.44	1474.
600	3.90	34.08	595	27.09	103.2	9.78	23.46	1475.
800	3.57	34.23	793	27.24	90.2	11.70	37.11	1477.
1000	3.16	34.33	991	27.36	79.6	13.39	52.63	1479.
1200	2.89	34.40	1188	27.44	72.7	14.91	69.64	1481.



OFFSHORE OCEANOGRAPHY GROUP

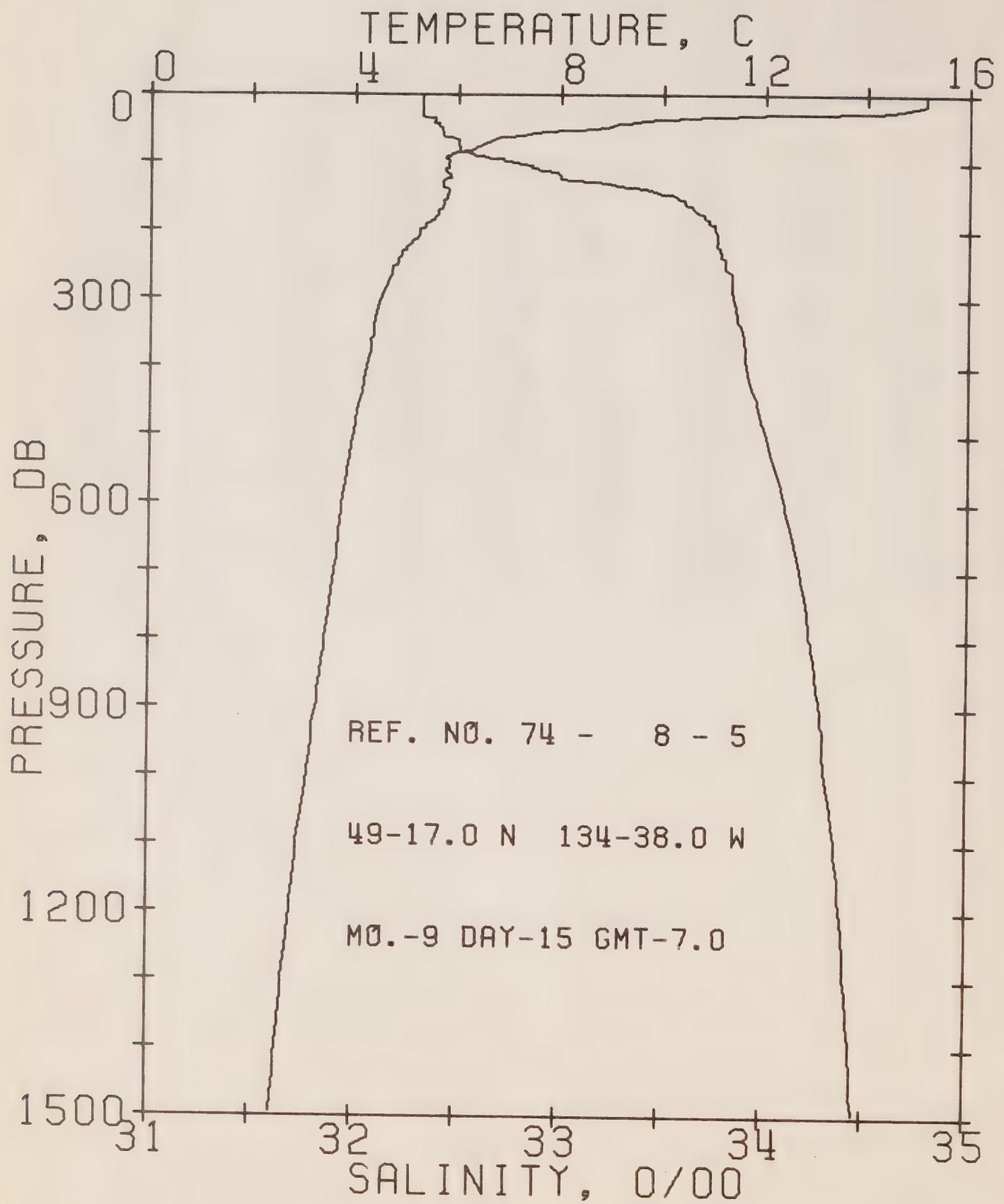
REFERENCE NO. 74- 8- 4

DATE 15/ 9/74

POSITION 49- 6.0N, 132-22.0W GMT 0.1

RESULTS OF STP CAST 219 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	15.59	32.39	0	23.86	405.6	0.0	0.0	1506.
10	15.24	32.40	10	23.94	398.0	0.40	0.02	1505.
20	11.87	32.42	20	24.64	332.0	0.78	0.08	1494.
30	9.36	32.50	30	25.13	285.0	1.08	0.15	1485.
50	7.25	32.50	50	25.44	255.5	1.62	0.37	1478.
75	6.43	32.55	75	25.59	241.7	2.24	0.77	1475.
100	5.60	32.57	99	25.71	230.6	2.82	1.29	1472.
125	5.78	33.16	124	26.15	188.8	3.35	1.89	1474.
150	5.81	33.48	149	26.40	165.2	3.79	2.51	1475.
175	5.66	33.66	174	26.56	150.7	4.18	3.15	1475.
200	5.45	33.73	199	26.64	143.2	4.55	3.86	1474.
225	5.19	33.76	223	26.70	138.3	4.90	4.62	1474.
250	5.01	33.78	248	26.73	135.0	5.25	5.45	1474.
300	4.67	33.83	298	26.81	128.0	5.90	7.29	1473.
400	4.23	33.92	397	26.93	117.1	7.13	11.64	1473.
500	3.96	34.00	496	27.02	109.3	8.26	16.84	1474.
600	3.70	34.08	595	27.11	101.0	9.31	22.73	1474.
800	3.35	34.23	793	27.26	88.1	11.20	36.16	1476.
1000	3.04	34.31	991	27.36	79.4	12.86	51.37	1478.
1200	2.72	34.39	1188	27.45	71.6	14.37	68.29	1480.



OFFSHORE OCEANOGRAPHY GROUP

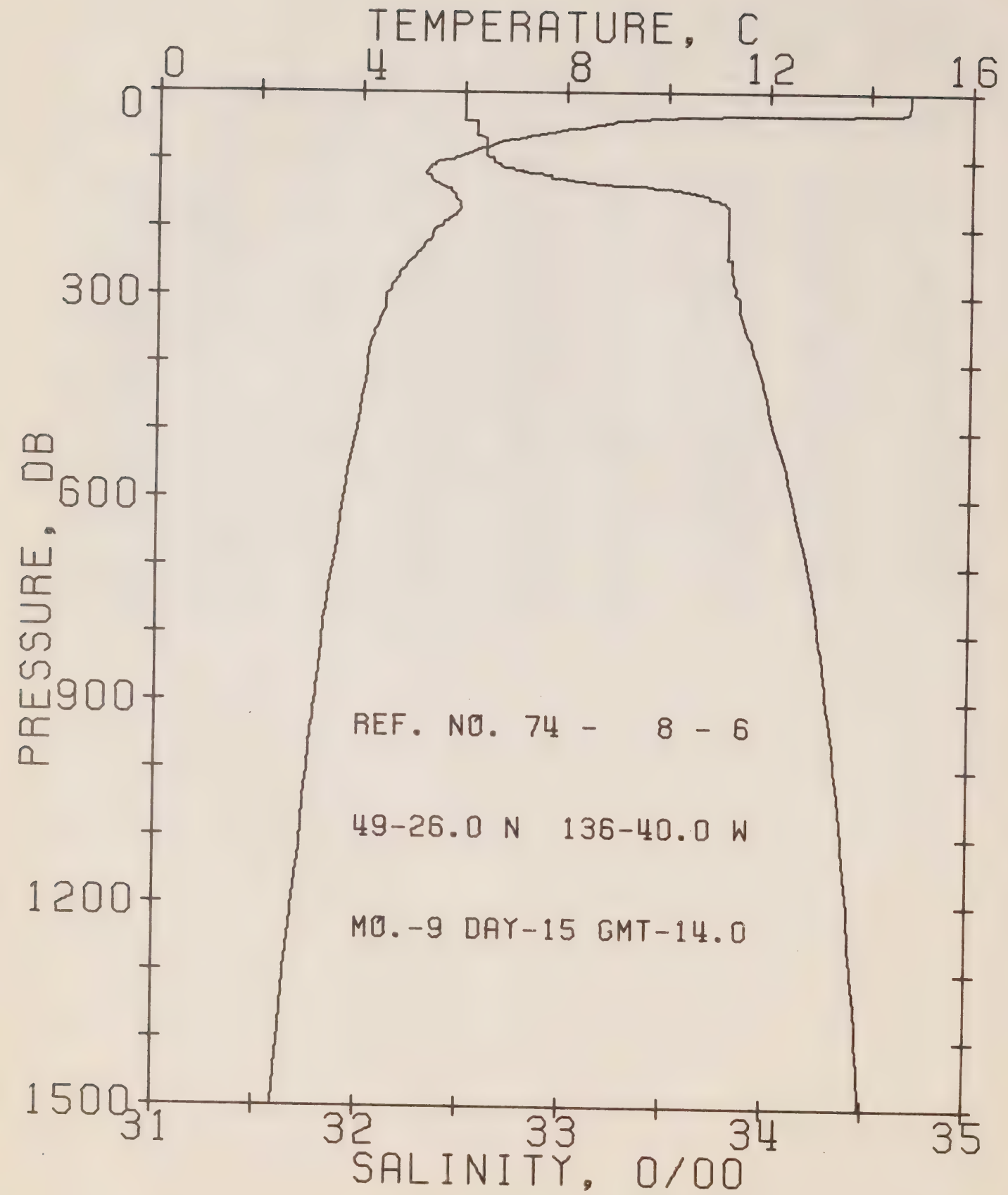
REFERENCE NO. 74- 8- 5

DATE 15/ 9/74

POSITION 49-17.0N, 134-38.0W GMT 7.0

RESULTS OF STD CAST 217 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. FN	SOUND
0	15.14	32.33	0	23.91	400.6	0.0	0.0	1505.
10	15.14	32.33	10	23.91	401.0	0.40	0.02	1505.
20	14.79	32.33	20	23.98	394.1	0.80	0.08	1504.
30	11.45	32.33	30	24.64	331.7	1.17	0.18	1493.
50	8.51	32.42	50	25.20	278.7	1.77	0.42	1482.
75	6.44	32.50	75	25.55	245.6	2.41	0.82	1475.
100	5.82	32.78	99	25.85	217.5	2.99	1.34	1473.
125	5.74	33.04	124	26.06	197.4	3.50	1.93	1473.
150	5.78	33.57	149	26.48	158.5	3.94	2.53	1475.
175	5.60	33.70	174	26.60	147.0	4.32	3.17	1475.
200	5.26	33.76	199	26.69	138.7	4.68	3.85	1474.
225	5.01	33.78	223	26.73	134.7	5.02	4.59	1473.
250	4.82	33.81	248	26.78	130.5	5.35	5.39	1473.
300	4.50	33.85	298	26.85	124.4	5.98	7.17	1472.
400	4.23	33.92	397	26.93	117.6	7.19	11.46	1473.
500	3.98	34.01	496	27.03	108.3	8.32	16.63	1474.
600	3.77	34.11	595	27.13	99.9	9.36	22.46	1475.
800	3.44	34.24	793	27.26	88.3	11.23	35.80	1477.
1000	3.11	34.31	991	27.35	80.1	12.91	51.16	1479.
1200	2.78	34.39	1189	27.44	72.1	14.42	68.09	1481.



OFFSHORE OCEANOGRAPHY GROUP

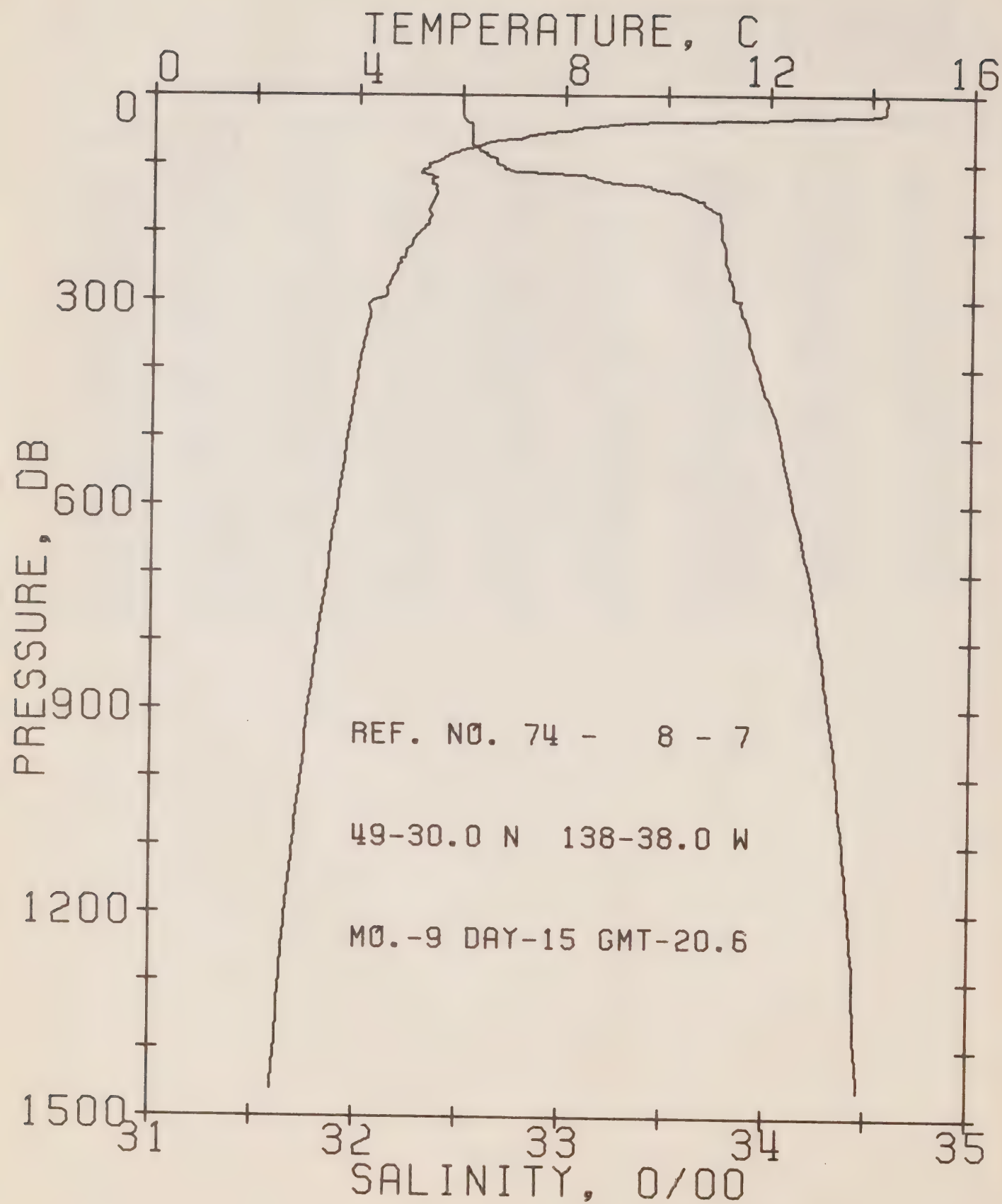
REFERENCE NO. 74- 8- 6

DATE 15/ 9/74

POSITION 49-26.0N, 136-40.0W GMT 14.0

RESULTS OF STD. CAST 199 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.76	32.50	0	24.12	380.4	0.0	0.0	1504.
10	14.76	32.50	10	24.12	380.8	0.38	0.02	1504.
20	14.74	32.50	20	24.13	380.7	0.76	0.08	1504.
30	14.68	32.50	30	24.14	379.7	1.14	0.17	1504.
50	8.49	32.56	50	25.31	268.0	1.74	0.41	1482.
75	6.66	32.61	75	25.61	240.1	2.37	0.82	1476.
100	5.70	32.64	99	25.75	226.5	2.96	1.34	1472.
125	5.34	32.93	124	26.02	201.0	3.49	1.95	1472.
150	5.81	33.67	149	26.55	151.5	3.93	2.56	1475.
175	5.91	33.80	174	26.64	143.1	4.30	3.17	1476.
200	5.50	33.80	199	26.69	138.7	4.65	3.84	1475.
225	5.25	33.80	223	26.72	135.9	4.99	4.59	1474.
250	4.97	33.82	248	26.77	131.4	5.33	5.40	1473.
300	4.51	33.84	298	26.84	125.0	5.97	7.19	1472.
400	4.14	33.95	397	26.96	113.9	7.17	11.45	1473.
500	3.94	34.04	496	27.05	106.3	8.27	16.49	1473.
600	3.68	34.13	595	27.15	97.3	9.28	22.16	1474.
800	3.29	34.26	793	27.29	84.8	11.09	35.02	1476.
1000	3.00	34.35	990	27.39	76.4	12.70	49.73	1478.
1200	2.74	34.42	1188	27.47	69.6	14.16	66.09	1480.



OFFSHORE OCEANOGRAPHY GROUP

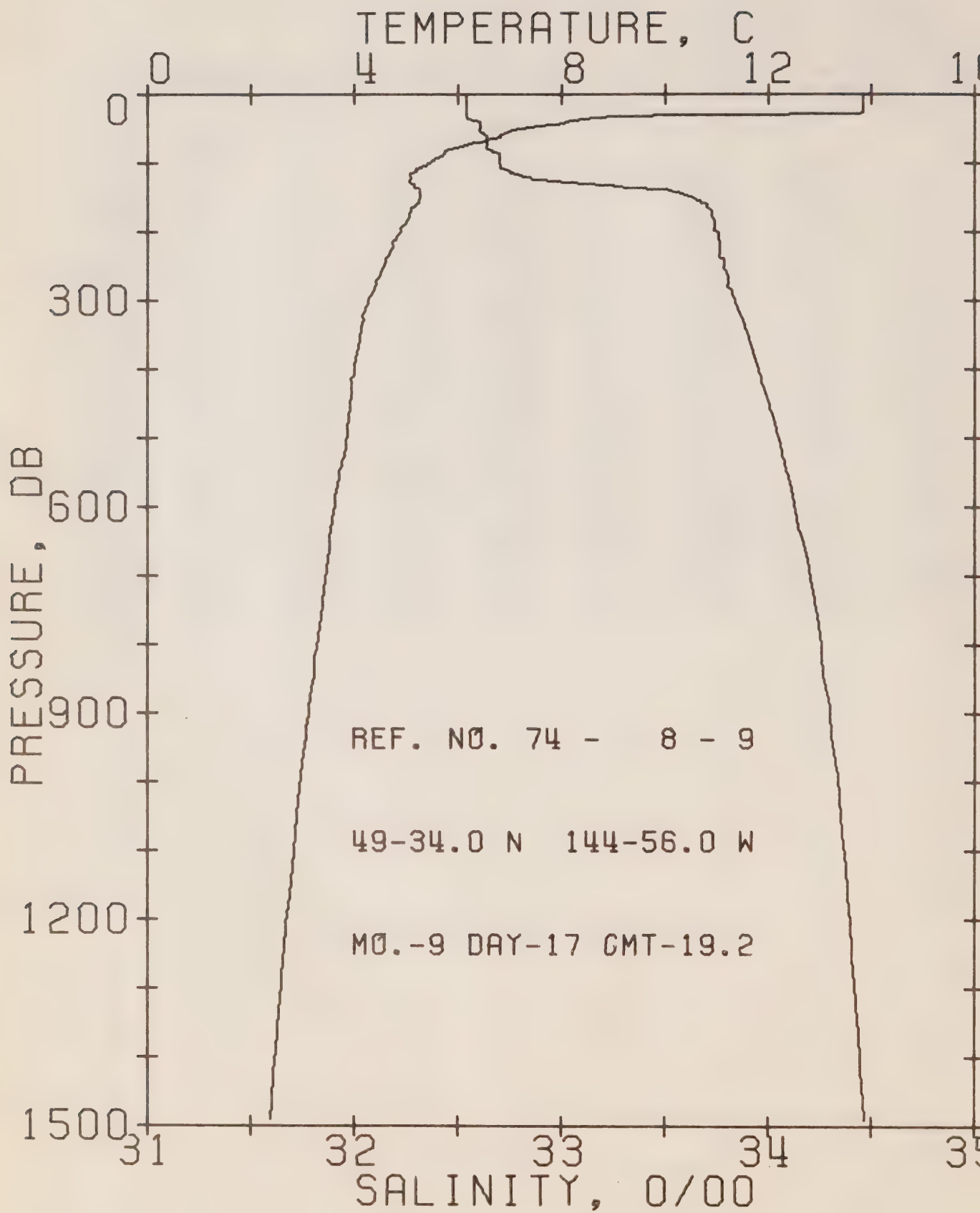
REFERENCE NO. 74- 8- 7

DATE 15/ 9/74

POSITION 49-30.0N, 138-38.0W GMT 20.6

RESULTS OF STP CAST 210 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.27	32.50	0	24.23	370.6	0.0	0.0	1502.
10	14.29	32.50	10	24.22	371.4	0.37	0.02	1502.
20	14.27	32.50	20	24.23	371.3	0.74	0.08	1502.
30	13.62	32.51	30	24.37	358.1	1.11	0.17	1500.
50	8.12	32.55	50	25.36	263.6	1.70	0.41	1481.
75	6.27	32.58	75	25.63	237.5	2.32	0.80	1474.
100	5.39	32.67	99	25.81	220.7	2.89	1.31	1471.
125	5.42	33.19	124	26.22	182.4	3.40	1.89	1472.
150	5.47	33.62	149	26.55	151.0	3.81	2.46	1474.
175	5.41	33.76	174	26.67	140.2	4.17	3.06	1474.
200	5.19	33.77	199	26.70	137.2	4.52	3.72	1473.
225	4.93	33.79	223	26.75	133.1	4.86	4.46	1473.
250	4.77	33.80	248	26.77	130.9	5.19	5.26	1473.
300	4.30	33.87	298	26.88	120.9	5.83	7.05	1471.
400	4.02	33.95	397	26.98	112.4	7.00	11.22	1472.
500	3.81	34.06	496	27.08	103.0	8.07	16.14	1473.
600	3.63	34.13	595	27.16	96.7	9.07	21.74	1474.
800	3.24	34.26	793	27.30	84.2	10.87	34.50	1476.
1000	2.94	34.35	990	27.40	75.5	12.46	49.06	1478.
1200	2.65	34.42	1188	27.48	68.7	13.90	65.22	1480.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 8- 9

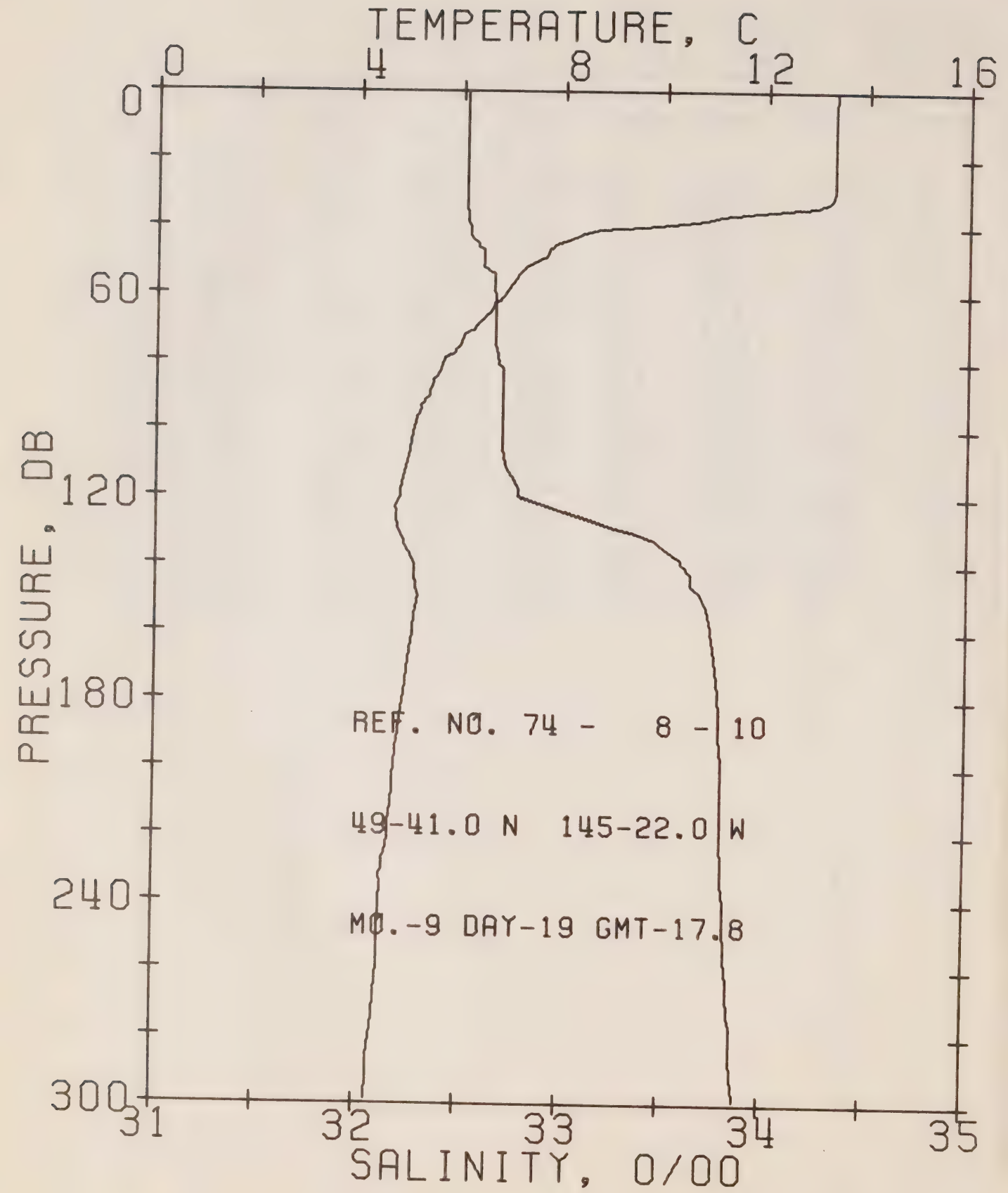
DATE 17/ 9/74

POSITION 42-34.0N, 144-56.0W

GMT 19.2

RESULTS OF STP CAST 197 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.85	32.54	0	24.34	359.3	0.0	0.0	1501.
10	13.85	32.54	10	24.34	359.7	0.36	0.02	1501.
20	13.83	32.54	20	24.35	359.6	0.72	0.07	1501.
30	10.22	32.54	30	25.02	295.6	1.07	0.16	1489.
50	7.22	32.61	50	25.53	246.9	1.59	0.37	1478.
75	6.07	32.64	75	25.71	230.6	2.19	0.75	1473.
100	5.46	32.70	99	25.83	219.3	2.75	1.25	1471.
125	5.06	32.94	124	26.06	197.1	3.28	1.86	1471.
150	5.27	33.64	149	26.59	147.1	3.69	2.43	1473.
175	5.07	33.73	174	26.69	138.6	4.04	3.02	1472.
200	4.88	33.76	199	26.73	134.5	4.39	3.67	1472.
225	4.72	33.77	223	26.76	132.2	4.72	4.40	1472.
250	4.56	33.79	248	26.79	129.2	5.05	5.19	1472.
300	4.27	33.84	298	26.86	122.8	5.68	6.95	1471.
400	4.00	33.95	397	26.98	112.2	6.85	11.11	1472.
500	3.85	34.05	496	27.07	104.2	7.93	16.06	1473.
600	3.61	34.13	595	27.16	96.4	8.93	21.67	1474.
800	3.27	34.26	793	27.29	84.8	10.73	34.49	1476.
000	2.95	34.34	990	27.39	76.4	12.35	49.28	1478.
200	2.69	34.40	1188	27.46	70.5	13.82	65.73	1480.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 8- 10

DATE 19/ 9/74

POSITION 49-41.0N, 145-22.0W GMT 17.8

RESULTS OF STP CAST 113 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.35	32.52	0	24.43	351.2	0.0	0.0	1499.
10	13.34	32.52	10	24.43	351.5	0.35	0.02	1499.
20	13.33	32.52	20	24.43	351.5	0.70	0.07	1499.
30	13.31	32.52	30	24.44	351.4	1.05	0.16	1499.
50	7.54	32.61	50	25.49	251.1	1.64	0.40	1479.
75	5.98	32.67	75	25.74	227.3	2.23	0.77	1473.
100	5.09	32.71	99	25.88	214.5	2.78	1.26	1470.
125	4.74	33.04	124	26.18	185.9	3.30	1.86	1469.
150	5.18	33.70	149	26.65	142.0	3.69	2.40	1472.
175	4.96	33.78	174	26.73	133.9	4.03	2.97	1472.
200	4.75	33.80	199	26.78	130.1	4.36	3.60	1472.
225	4.59	33.80	223	26.80	128.5	4.69	4.30	1471.
250	4.46	33.82	248	26.83	125.6	5.00	5.06	1471.

BATHYTHERMOGRAPH OBSERVATIONS

(P-74-8)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030/13-04-74

48° 34' N.

125° 30' W.

0030 = Time in GMT

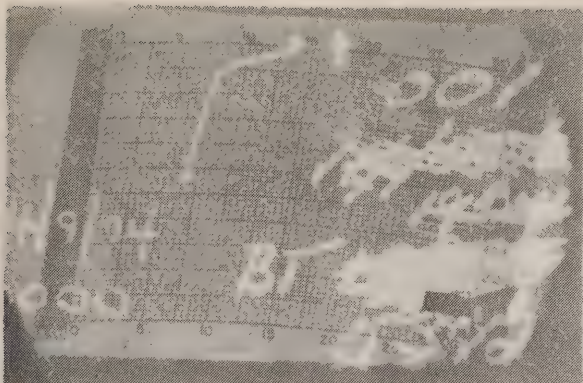
13 = Day

04 = Month

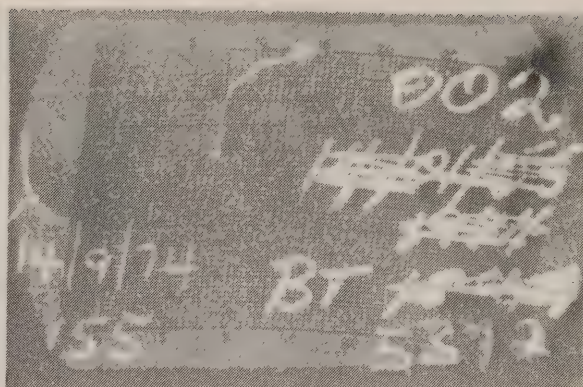
74 = Year

48° 34' N. = Latitude

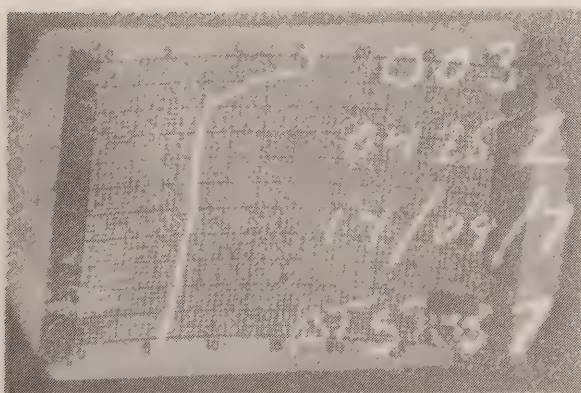
125° 30' W. = Longitude



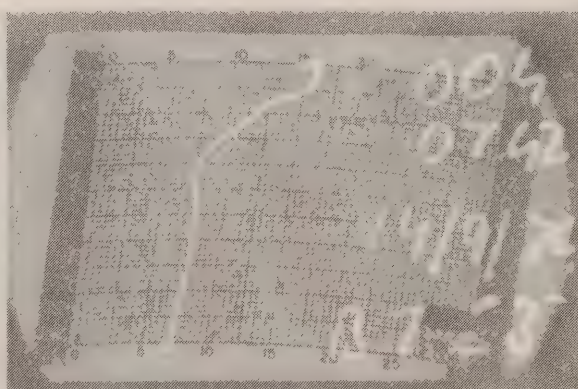
0000 / 14-09-74
 48° 33' N.
 125° 33' W.



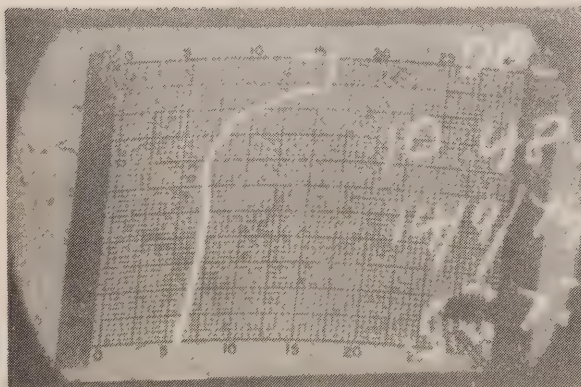
0155 / 14-09-74
 48° 38' N.
 126° 00' W.



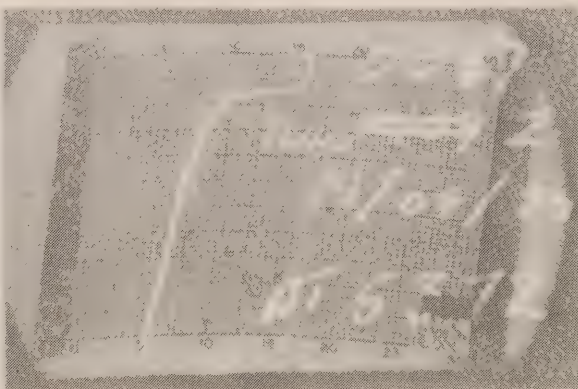
0425 / 14-09-74
 48° 40' N.
 126° 39' W.



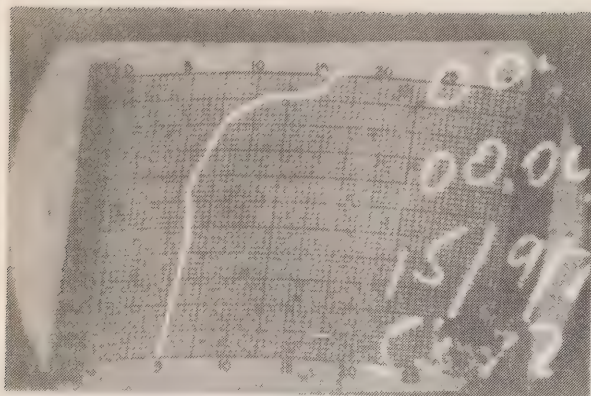
0740 / 14-09-74
 48° 44' N.
 127° 40' W.



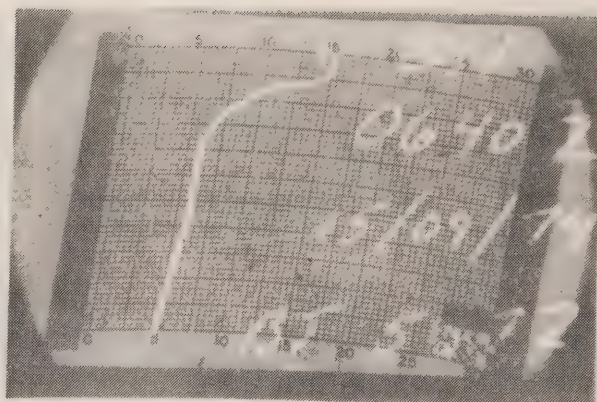
1048 / 14-09-74
 48° 48' N.
 128° 39' W.



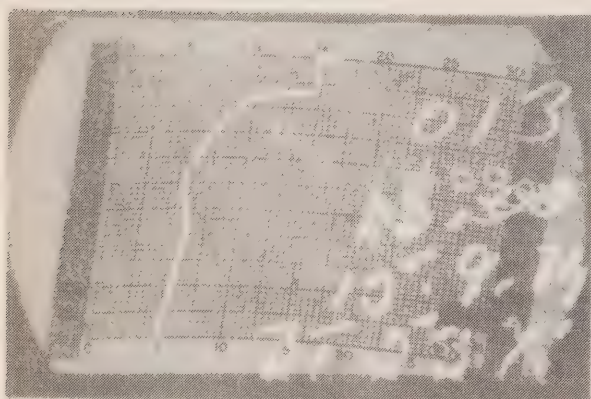
1640 / 14-09-74
 48° 56' N.
 130° 40' W.



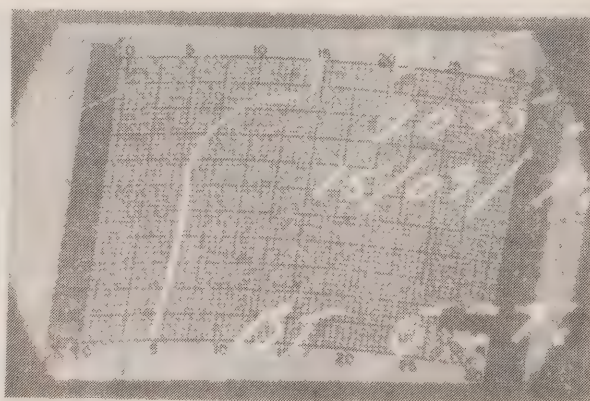
0000 / 15-09-74
 49° 06' N.
 132° 22' W.



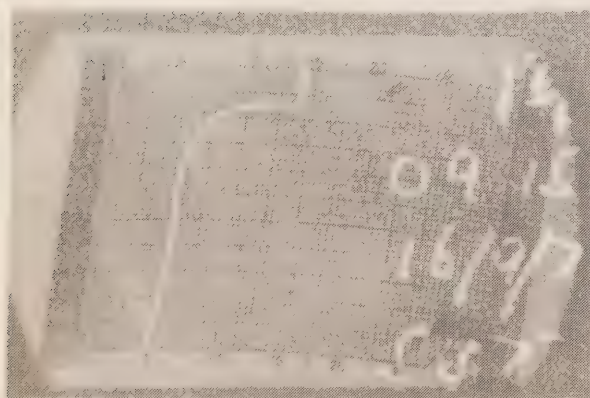
0640 / 15-09-74
 49° 17' N.
 134° 38' W.



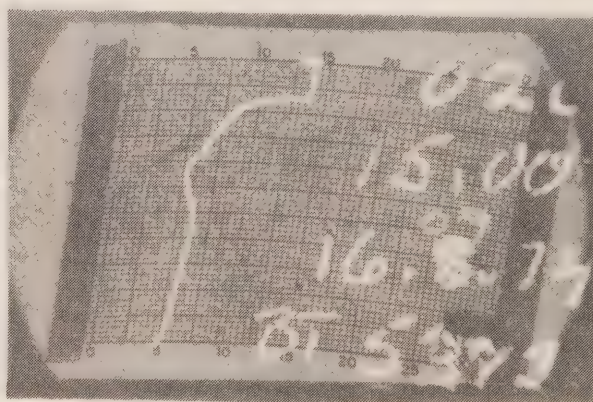
1400 / 15-09-74
 49° 26' N.
 136° 40' W.



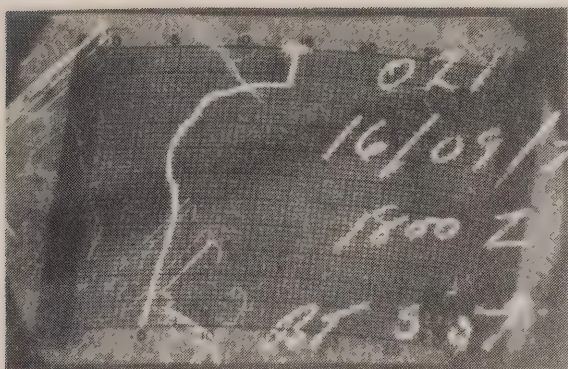
2035 / 15-09-74
 49° 30' N.
 138° 38' W.



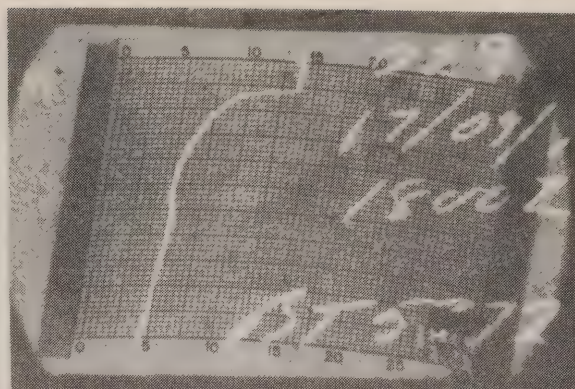
0915 / 16-09-74
 49° 54' N.
 142° 39' W.



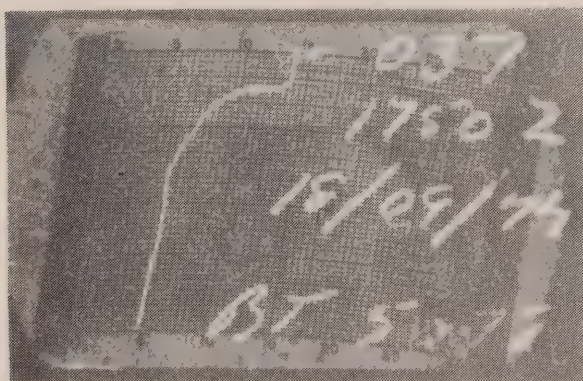
1500 / 16-09-74
 49° 40' N.
 143° 46' W.



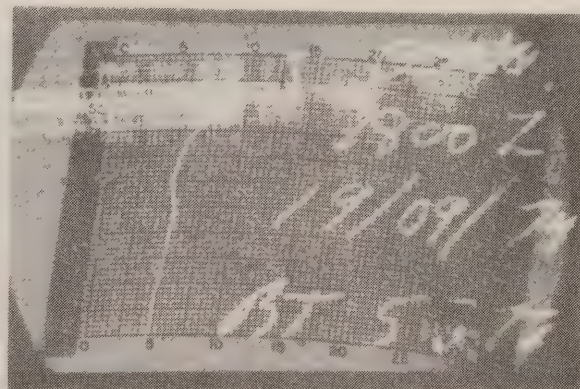
1800 / 16-09-74
 49° 37' N.
 144° 08' W.



1800 / 17-09-74
 49° 34' N.
 144° 56' W.



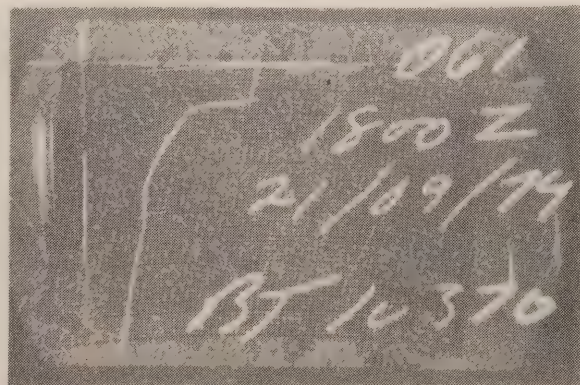
1750 / 18-09-74
 50° 00' N.
 145° 05' W.



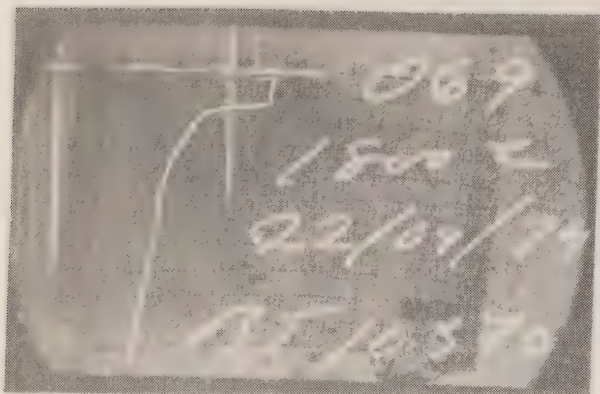
1800 / 19-09-74
 49° 41' N.
 145° 22' W.



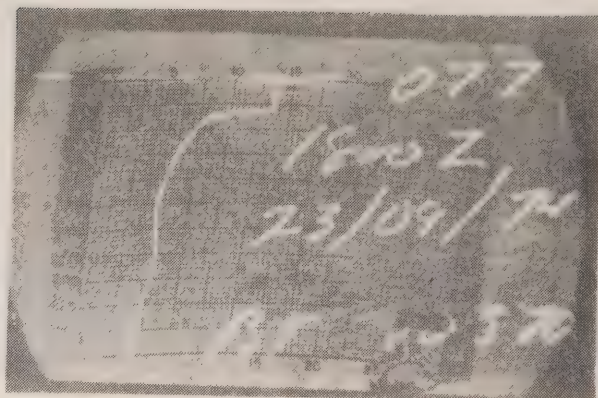
1800 / 20-09-74
 49° 29' N.
 145° 33' W.



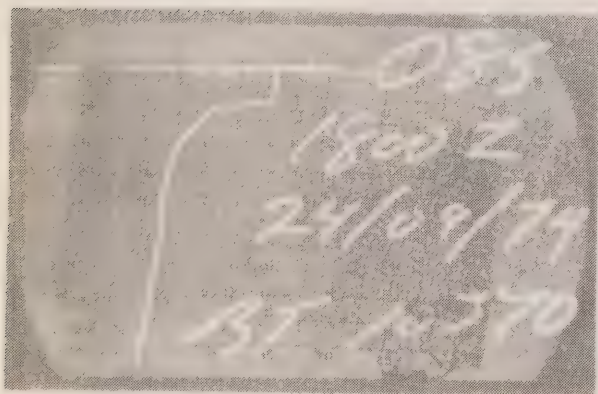
1800 / 21-09-74
 49° 41' N.
 145° 46' W.



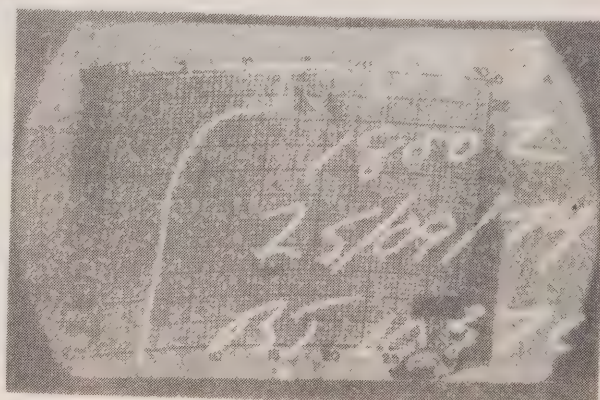
1800 / 22-09-74
 49° 47' N.
 145° 45' W.



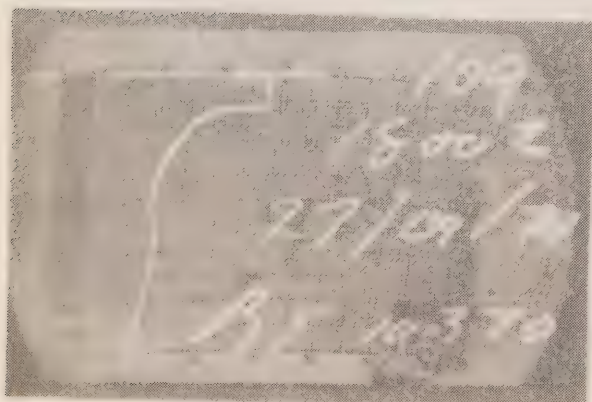
1800 / 23-09-74
 50° 12' N.
 145° 09' W.



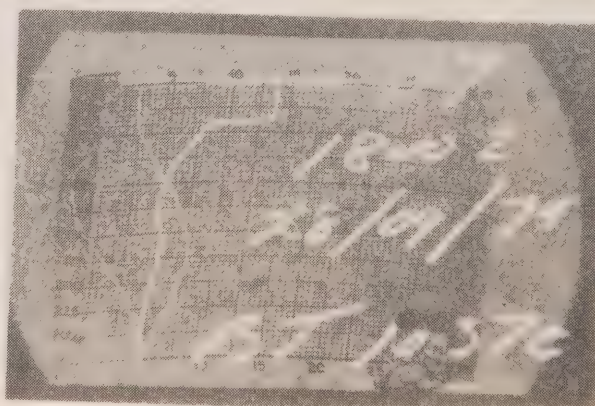
1800 / 24-09-74
 49° 46' N.
 145° 40' W.



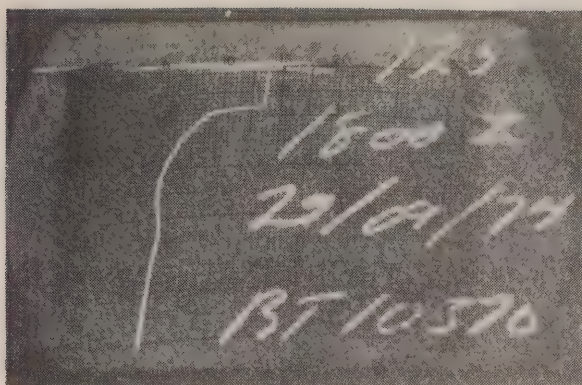
1800 / 25-09-74
 49° 26' N.
 145° 26' W.



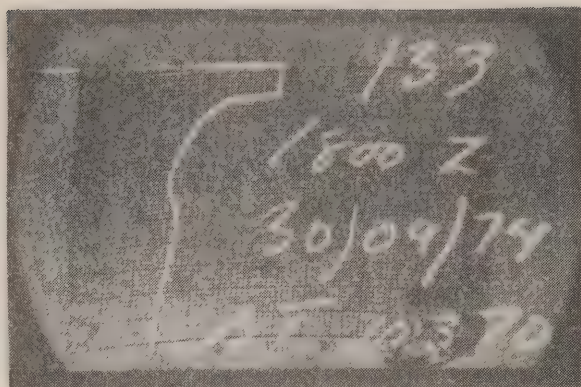
1800 / 27-09-74
 49° 33' N.
 144° 45' W.



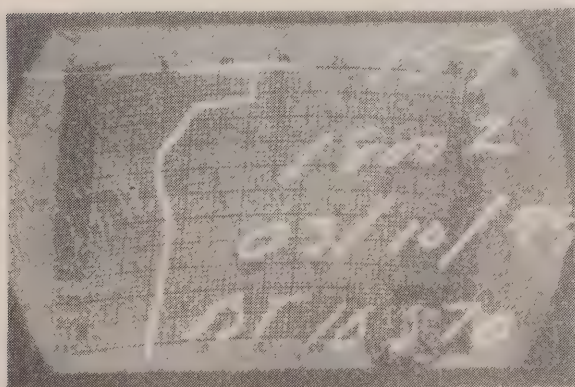
1800 - 28-09-74
 49° 58' N.
 145° 13' W.



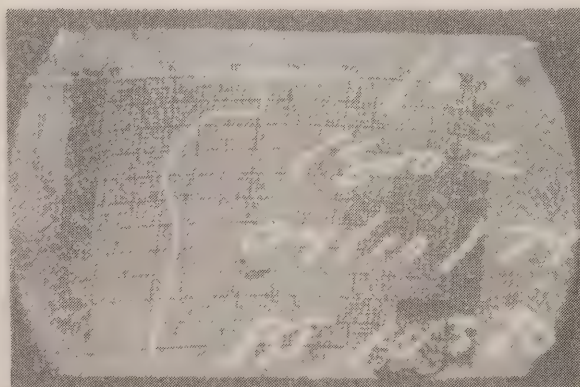
1800 / 29-09-74
 50° 11' N.
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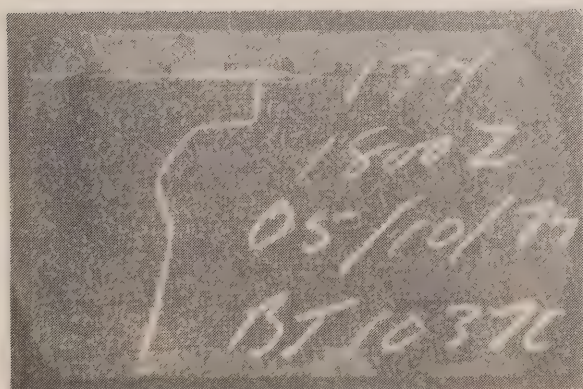
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 145° 09' W.



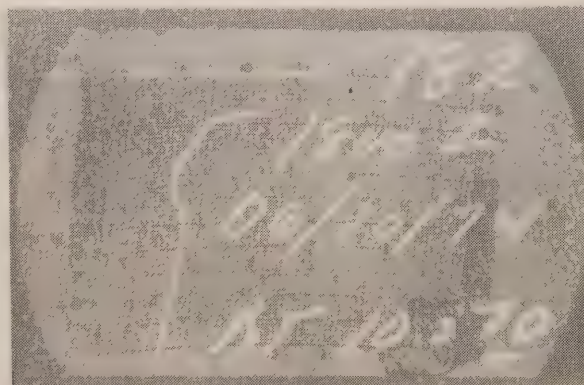
1800 / 03-10-74
 50° 05' N.
 144° 46' W.



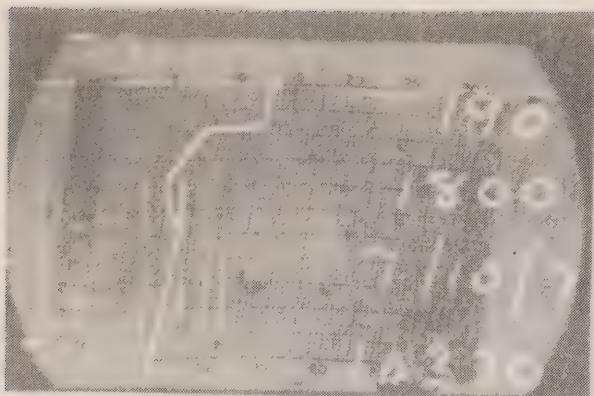
1800 / 04-10-74
 50° 12' N.
 144° 53' W.



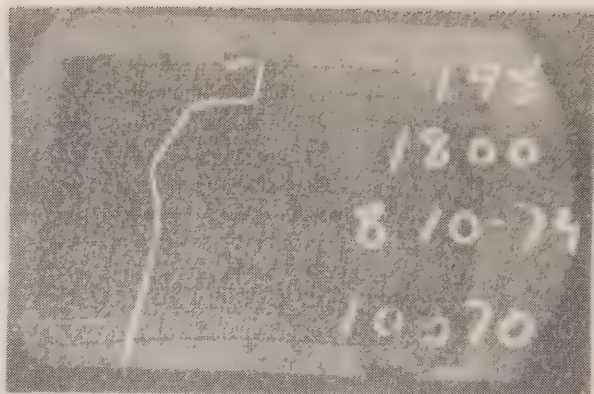
1800 / 05-10-74
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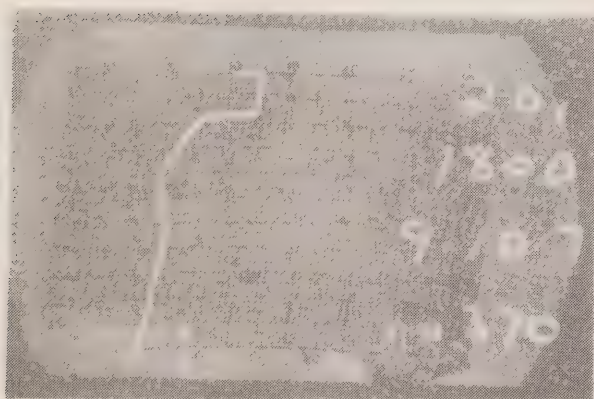
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 144° 06' W.



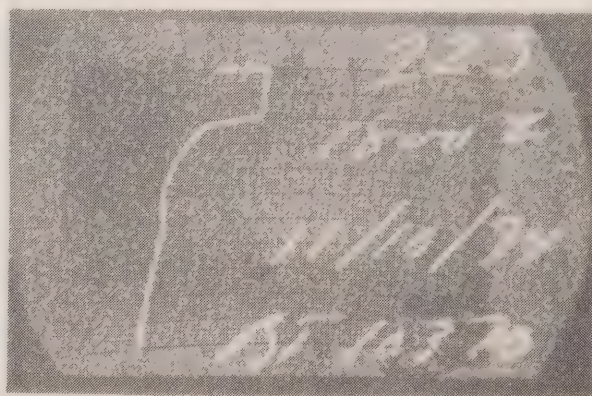
1800 / 07-10-74
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 144° 36' W.



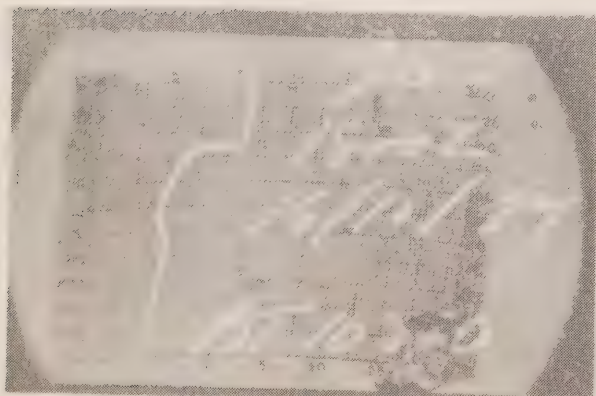
1800 / 08-10-74
 49° 51' N.
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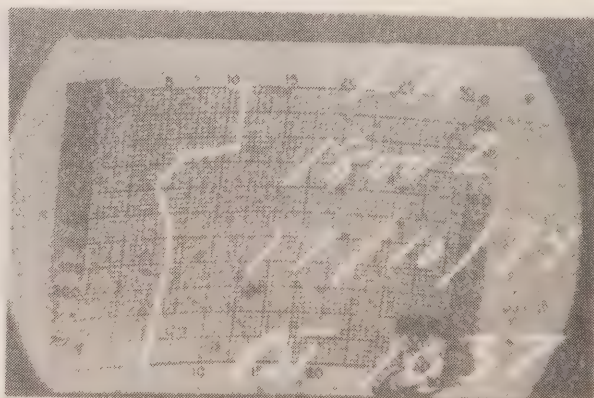
1800 / 09-10-74
 49° 42' N.
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1800 / 11-10-74
 49° 49' N.
 145° 34' W.



1800 / 16-10-74
 50° 00' N.
 145° 16' W.



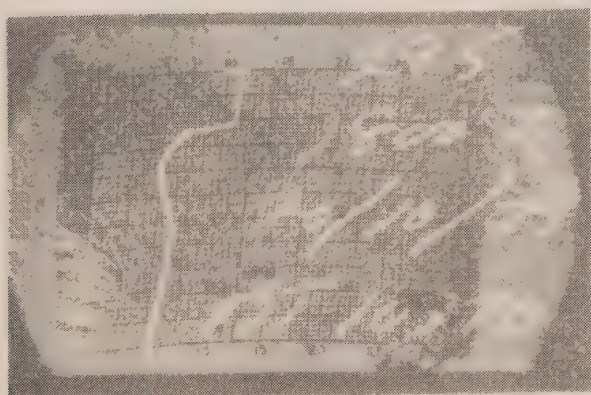
1800 / 17-10-74
 50° 14' N.
 144° 53' W.



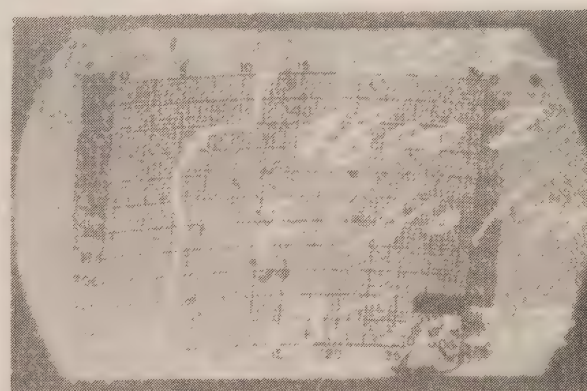
1800 / 18-10-74
 49° 53' N.
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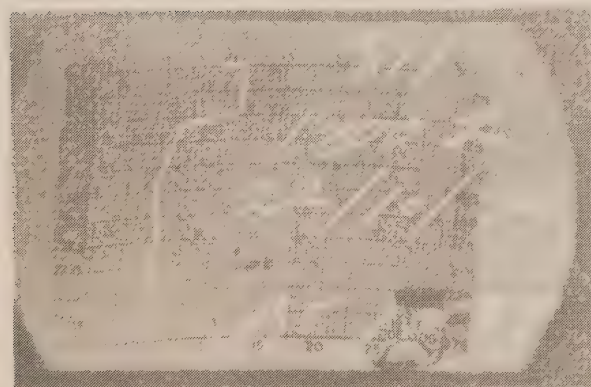
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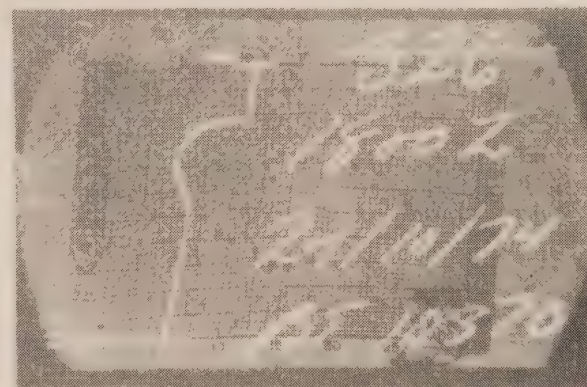
1800 / 20-10-74
 50° 19' N.
 144° 44' W.



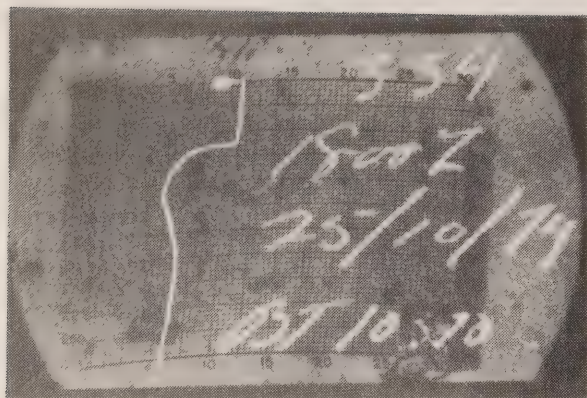
1800 / 21-10-74
 50° 00' N.
 145° 15' W.



1800 / 22-10-74
 50° 05' N.
 145° 25' W.



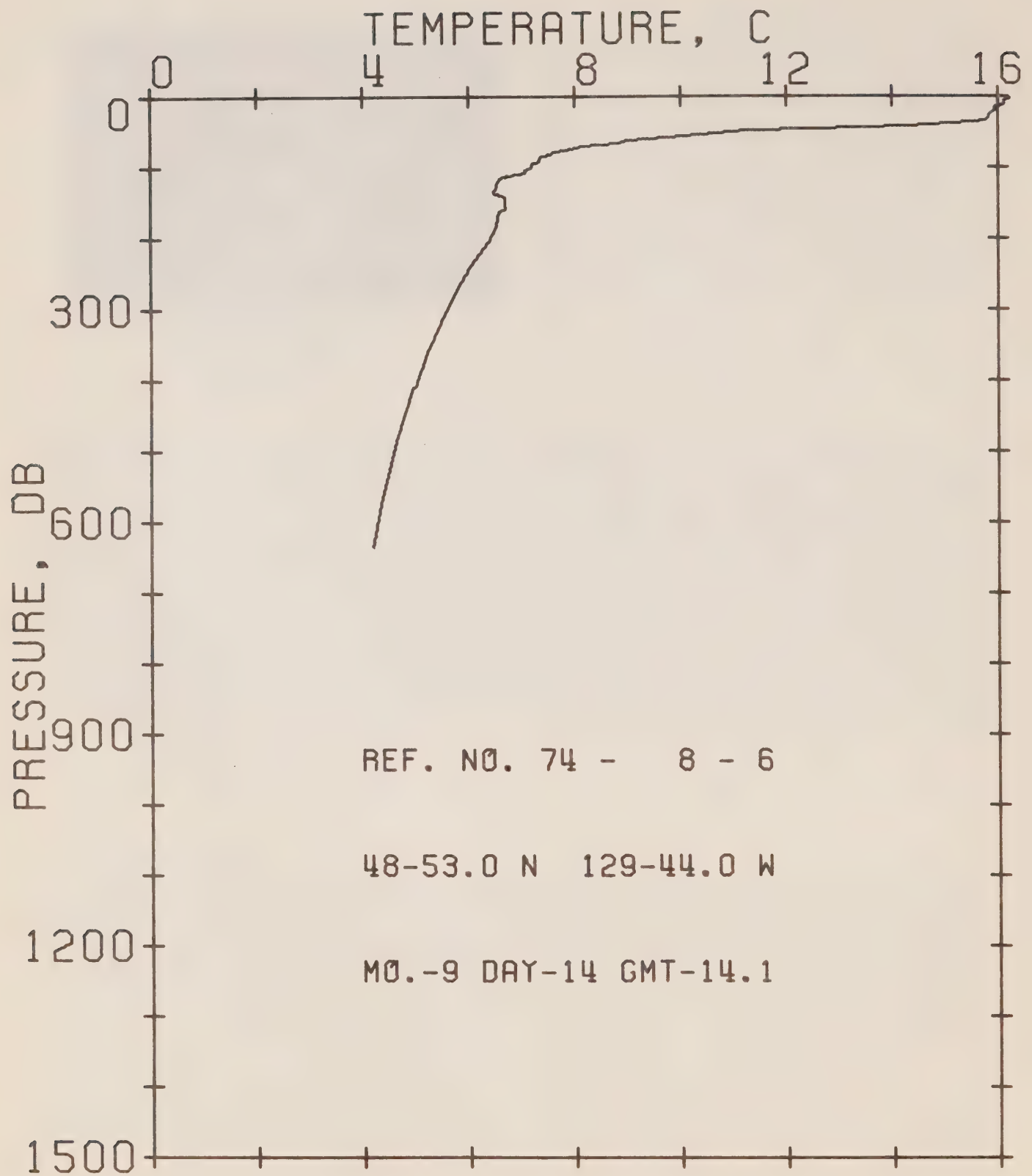
1800 / 24-10-74
 49° 55' N.
 145° 03' W.



1800 / 25-10-74

50° 10' N.

144° 45' W.



OFFSHORE OCEANOGRAPHY

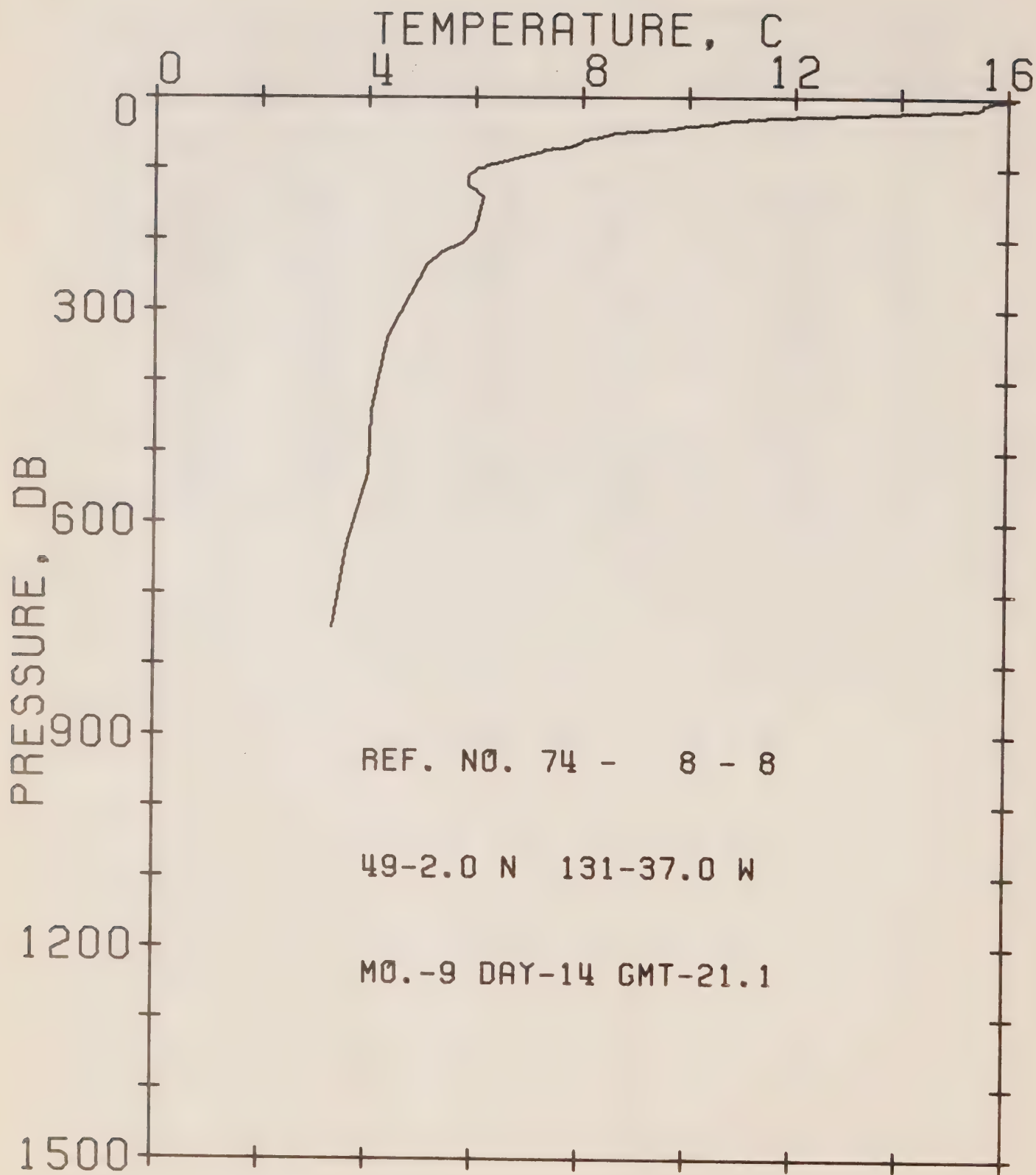
REFERENCE NO. 74- 8- 6

DATE 14/ 9/74

POSITION 48-05.3N 129-04.4W GMT 14.1

RESULTS OF XBT CAST 44 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	16.21	78	7.60	181	6.53
5	16.11	81	7.55	199	6.42
11	16.11	83	7.39	238	6.05
15	15.96	91	7.34	276	5.77
24	15.86	93	7.23	317	5.50
33	15.75	101	7.18	361	5.23
36	15.50	103	7.07	408	5.01
41	14.28	108	7.07	410	4.96
46	12.50	111	6.75	486	4.63
48	11.26	116	6.59	575	4.35
57	9.76	135	6.48	637	4.18
62	8.98	139	6.53	650	3.91
65	8.82	141	6.69	695	3.80
70	8.13	158	6.69	749	3.68
75	7.81	163	6.59		



OFFSHORE OCEANOGRAPHY

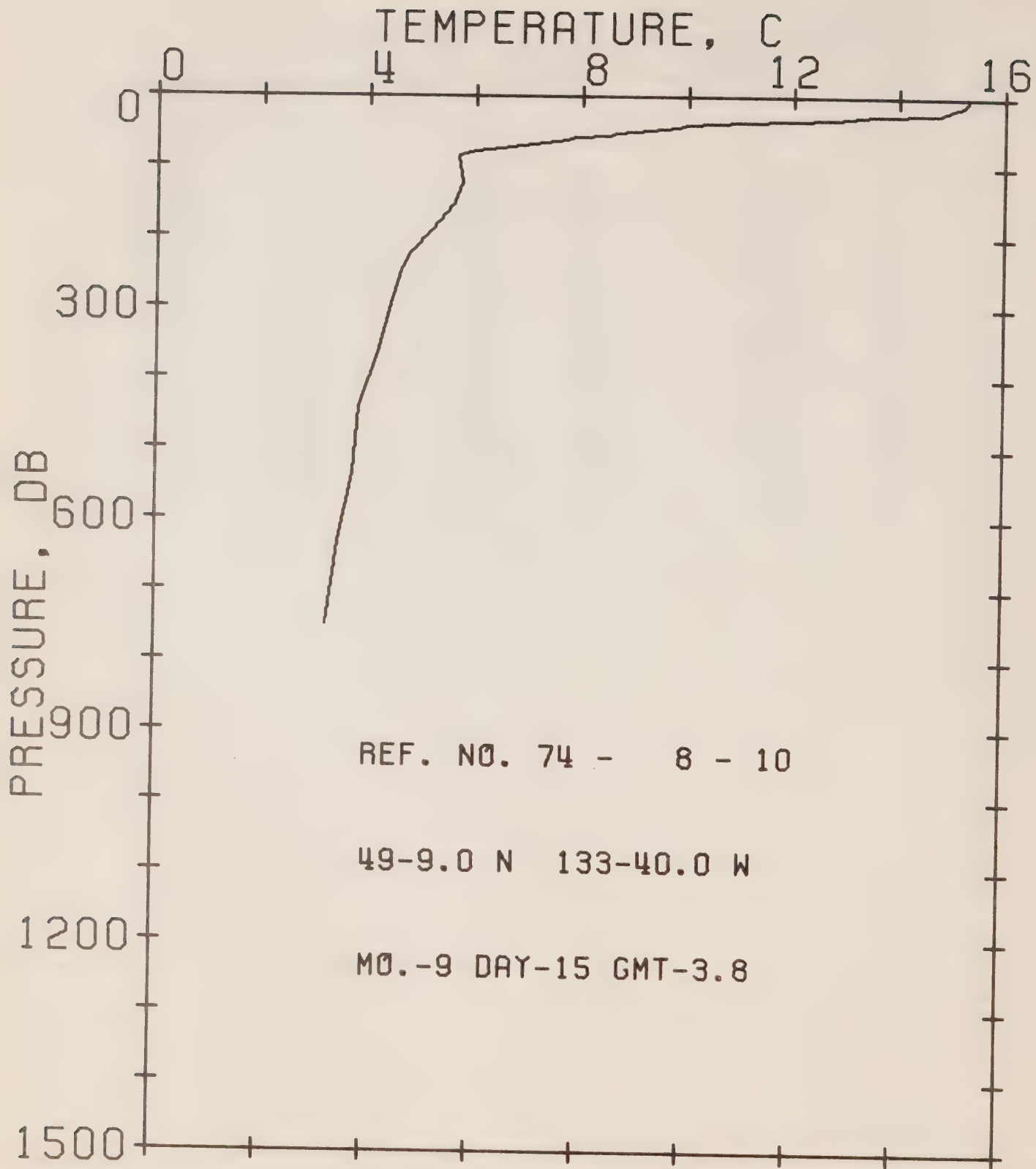
REFERENCE NO. 74- 8- 8

DATE 14/ 9/74

POSITION 49-00.2N 131-03.7W GMT 21.1

RESULTS OF XBT CAST 43 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	16.11	65	7.92	158	6.10
4	15.75	69	7.76	187	5.99
7	15.55	72	7.55	207	5.77
15	15.50	74	7.28	213	5.56
17	15.40	76	7.28	218	5.39
24	13.11	84	6.85	236	5.12
28	11.62	91	6.48	281	4.79
34	10.59	95	6.21	336	4.41
37	10.44	99	6.15	368	4.30
40	9.97	101	6.05	443	4.07
44	9.71	113	5.88	531	4.02
46	9.45	126	5.88	633	3.63
49	8.61	129	5.99	705	3.46
55	8.34	141	6.15	748	3.35
60	8.03				



OFFSHORE OCEANOGRAPHY

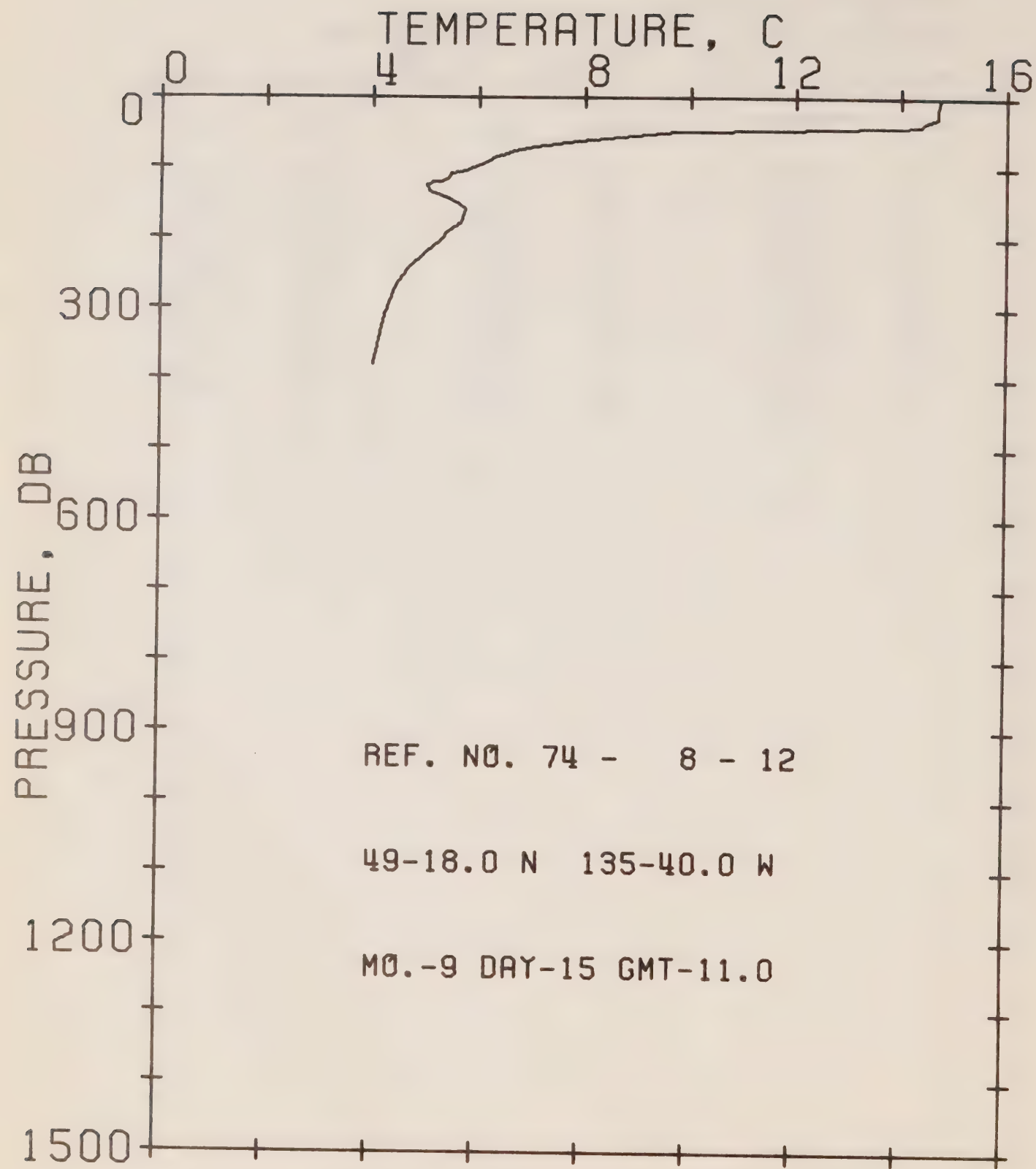
REFERENCE NO. 74- 8- 10

DATE 15/ 9/74

POSITION 49-00.9N 133-04.0W GMT 03.8

RESULTS OF XBT CAST 32 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	15.30	52	8.61	153	5.61
12	15.20	55	8.50	192	5.18
16	14.99	58	7.87	223	4.79
20	14.89	62	7.71	244	4.63
23	14.74	67	7.07	290	4.46
26	13.52	72	6.64	366	4.18
32	12.80	74	6.48	442	3.85
36	11.06	78	5.99	535	3.74
39	9.97	83	5.72	634	3.46
43	9.81	85	5.67	749	3.24
49	8.98	123	5.77		



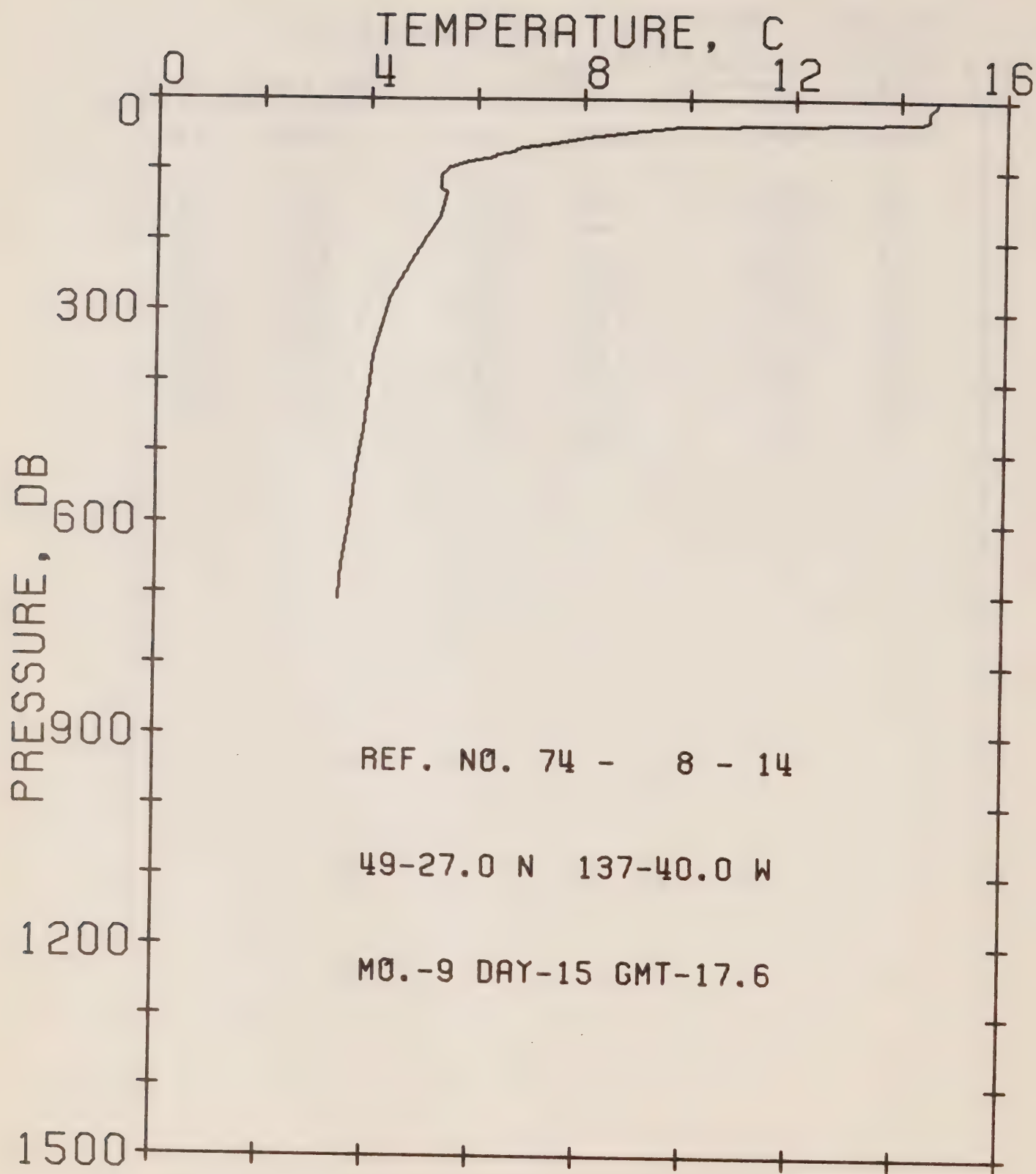
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8- 12 DATE 15/ 9/74

POSITION 49-01.8N 135-04.0W GMT 11.0

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	14.74	76	6.64	145	5.50
16	14.69	80	6.53	153	5.67
27	14.69	84	6.32	160	5.77
33	14.44	92	6.15	178	5.67
40	14.38	103	5.77	190	5.45
42	13.93	109	5.50	205	5.28
44	12.45	114	5.45	219	5.01
46	11.88	119	5.28	242	4.68
48	9.76	121	5.12	267	4.46
61	7.87	125	5.01	310	4.24
69	7.07	133	5.07	379	4.02
74	6.80	138	5.23		



OFFSHORE OCEANOGRAPHY

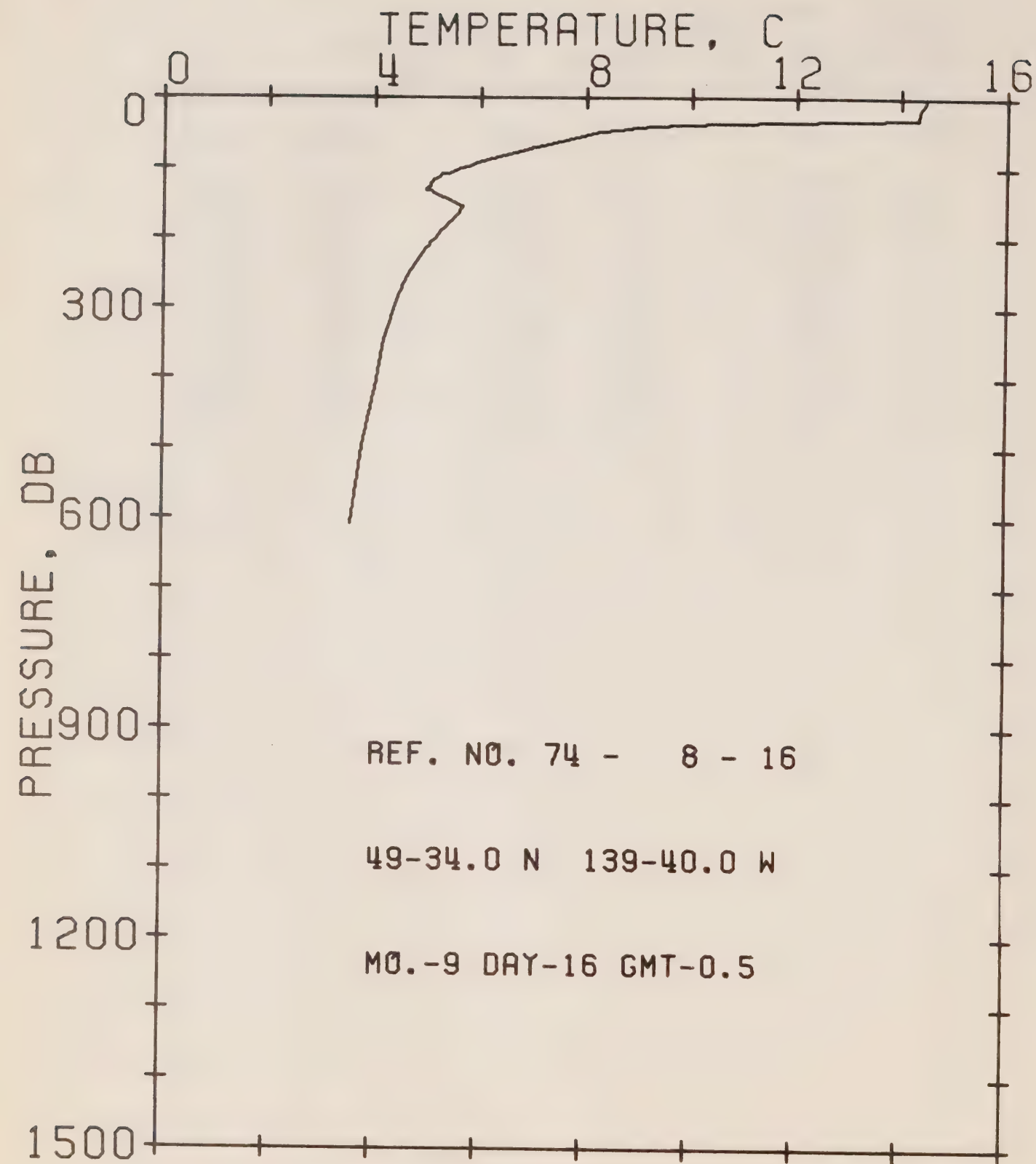
REFERENCE NO. 74- 8- 14

DATE 15/ 9/74

POSITION 49-02.7N 137-04.0W GMT 17.6

RESULTS OF XBT CAST. 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.69	63	7.23	131	5.45
16	14.54	67	6.85	167	5.34
28	14.54	70	6.75	189	5.12
31	14.38	74	6.69	223	4.85
32	14.18	78	6.37	281	4.41
35	12.09	81	6.32	365	4.07
38	9.91	88	5.83	469	3.91
41	9.39	94	5.61	521	3.80
45	8.87	96	5.50	590	3.68
47	8.71	108	5.34	659	3.52
53	8.03	126	5.34	708	3.46
56	7.92				



OFFSHORE OCEANOGRAPHY

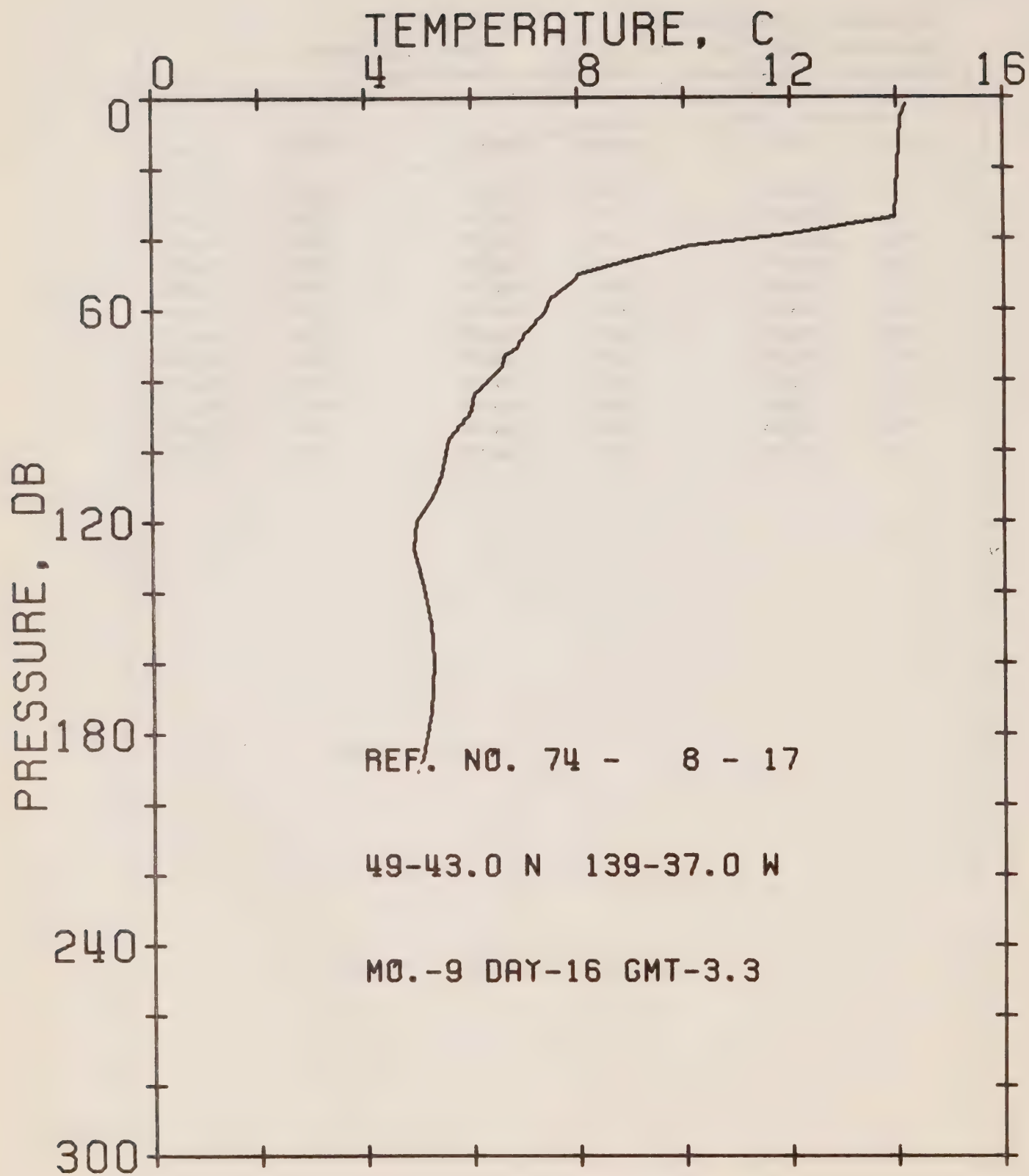
REFERENCE NO. 74- 8- 16

DATE 16/ 9/74

POSITION 49-03.4N 139-04.0W GMT 00.5

RESULTS OF XBT CAST 36 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.49	83	6.32	144	5.39
15	14.38	92	5.94	152	5.56
30	14.33	98	5.77	155	5.67
34	11.73	99	5.61	165	5.56
37	9.76	107	5.39	184	5.34
42	8.92	108	5.28	216	4.96
46	8.61	112	5.23	251	4.63
48	8.24	115	5.12	284	4.46
57	7.71	128	5.01	346	4.18
68	7.19	131	4.96	413	4.02
71	6.91	132	5.07	497	3.80
74	6.85	138	5.18	608	3.57



OFFSHORE OCEANOGRAPHY

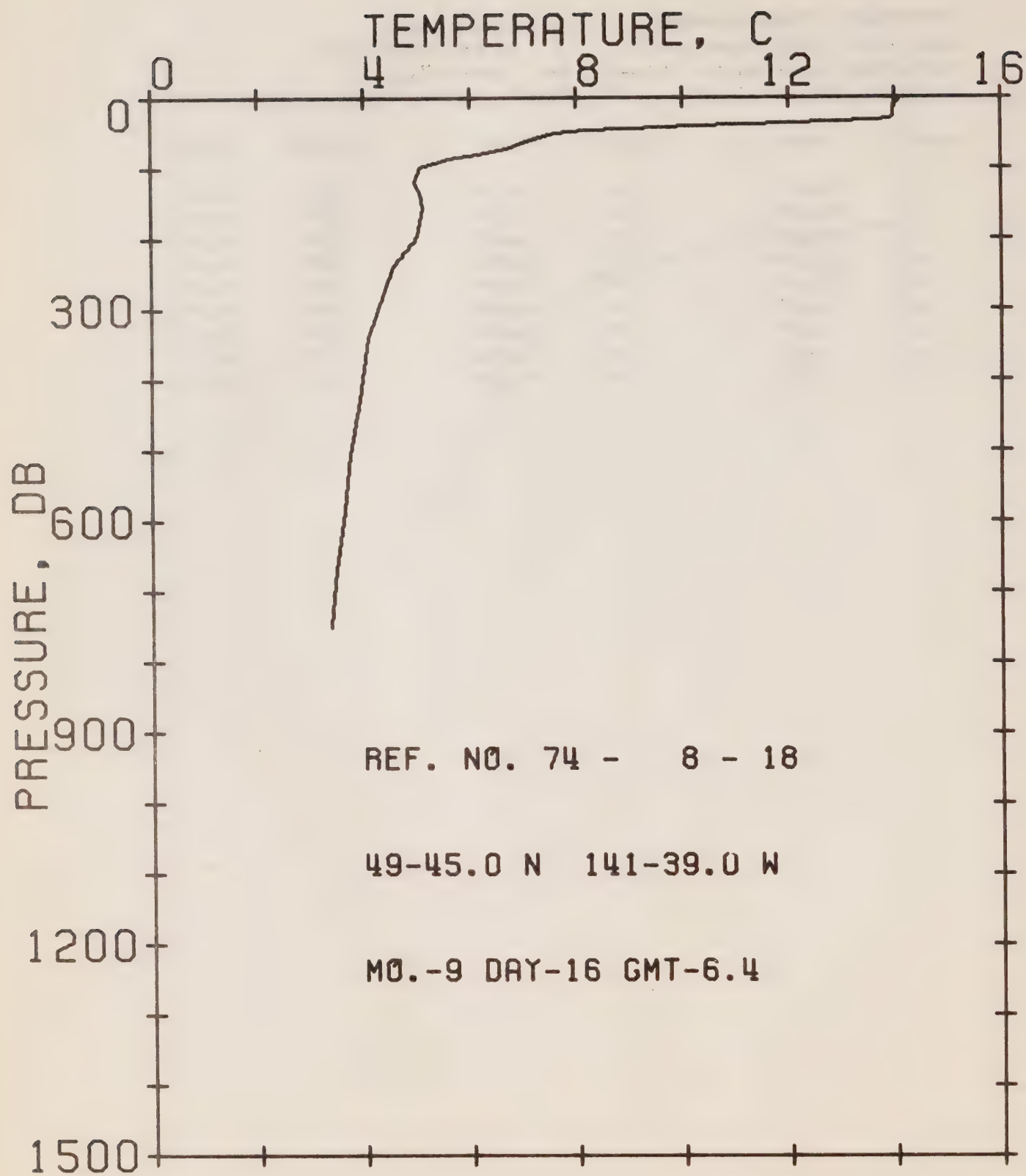
REFERENCE NO. 74- 8- 17

DATE 16/ 9/74

POSITION 49-04.3N 139-03.7W GMT 03.3

RESULTS OF XBT CAST 27 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	14.18	61	7.39	113	5.28
6	14.08	67	7.01	120	4.96
34	13.98	71	6.85	128	4.90
39	11.98	73	6.64	137	5.07
42	10.13	76	6.59	149	5.23
46	8.98	84	6.05	160	5.28
50	8.03	89	5.99	174	5.23
52	7.92	97	5.56	187	5.07
57	7.50	107	5.45	191	4.96



OFFSHORE OCEANOGRAPHY

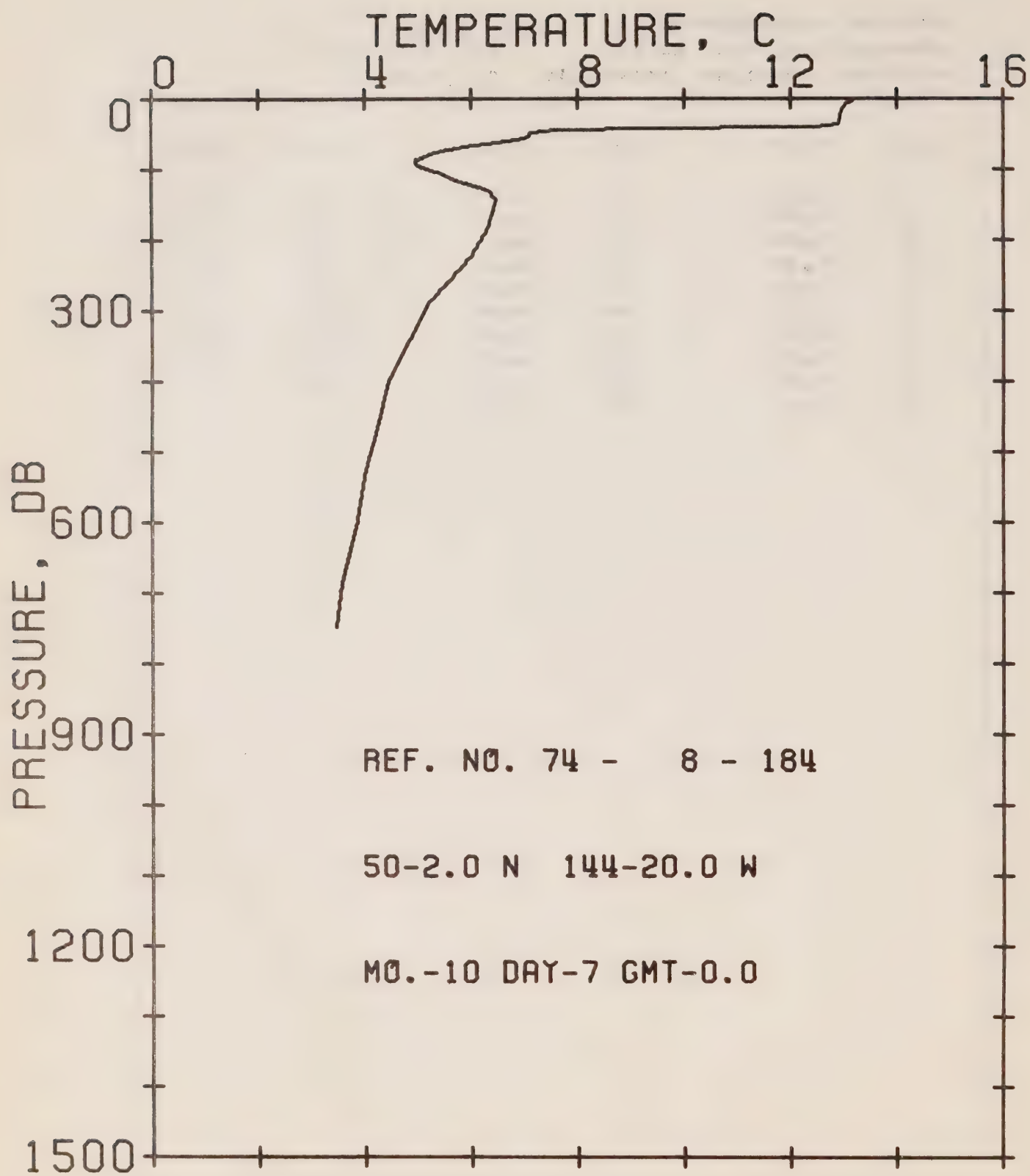
REFERENCE NO. 74- 8- 18

DATE 16/ 9/74

POSITION 49-04.5N 141-03.9W GMT 06.4

RESULTS OF XBT CAST 22 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	14.08	57	7.23	196	5.01
11	13.98	66	6.91	237	4.57
28	13.98	71	6.69	272	4.41
30	13.98	79	6.15	341	4.07
32	13.62	85	5.61	428	3.91
37	11.16	90	5.45	506	3.74
39	10.13	97	5.07	585	3.63
42	9.66	119	4.96	670	3.46
46	8.19	134	5.07	749	3.35
49	7.60	156	5.12		



OFFSHORE OCEANOGRAPHY

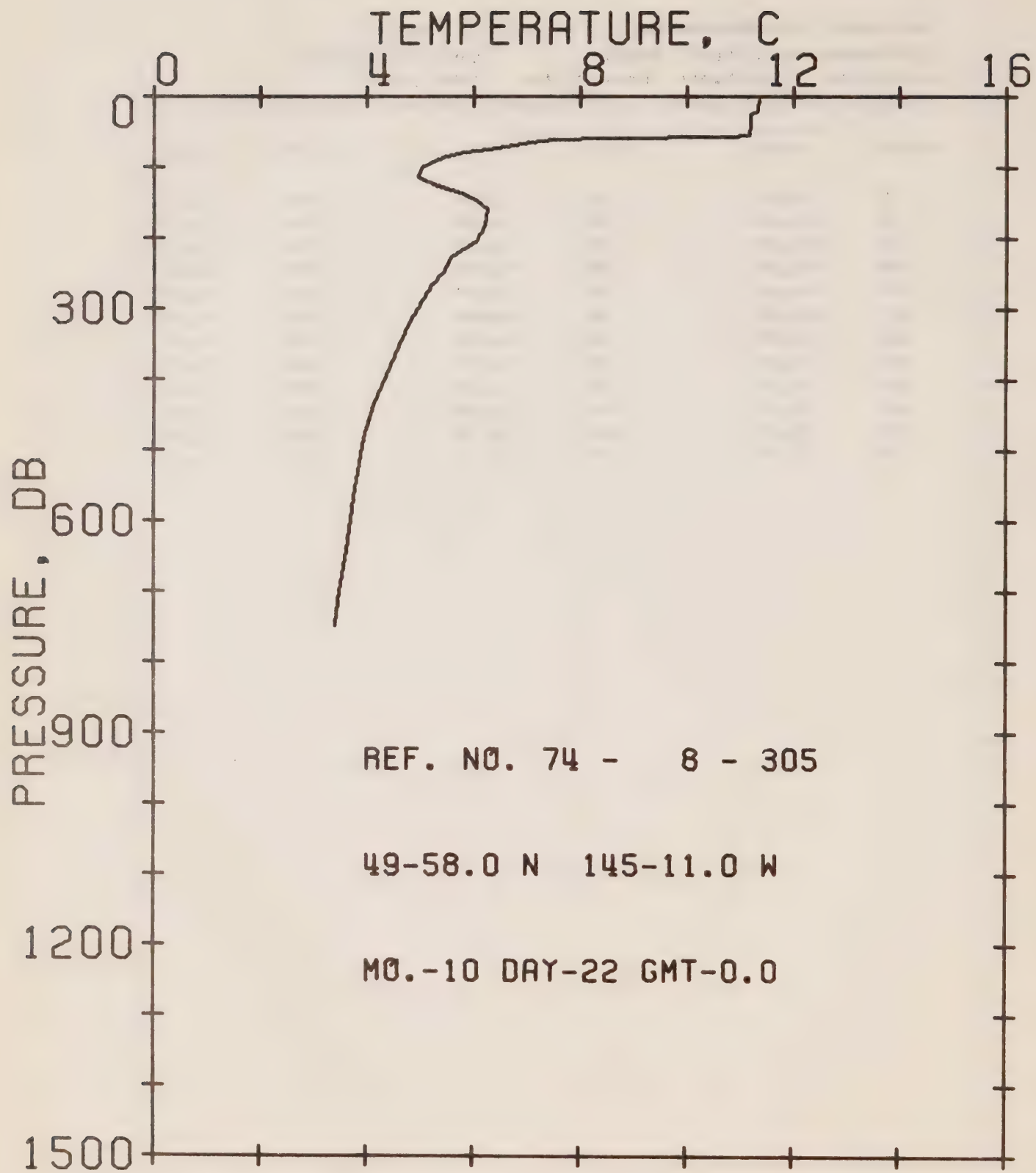
REFERENCE NO. 74- 8-184

DATE 07/10/74

POSITION 50-00.2N 144-02.0W GMT 00.0

RESULTS OF XBT CAST 36 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.16	61	6.48	144	6.48
5	13.06	68	5.88	184	6.32
16	12.96	74	5.45	224	5.99
35	12.91	78	5.23	259	5.56
39	12.45	83	5.07	289	5.23
40	11.83	85	4.96	342	4.85
41	9.50	92	4.96	400	4.46
44	7.55	95	5.01	468	4.24
46	7.39	99	5.18	526	4.02
48	7.12	106	5.45	608	3.85
53	7.07	116	5.72	688	3.57
57	6.85	129	6.32	747	3.46



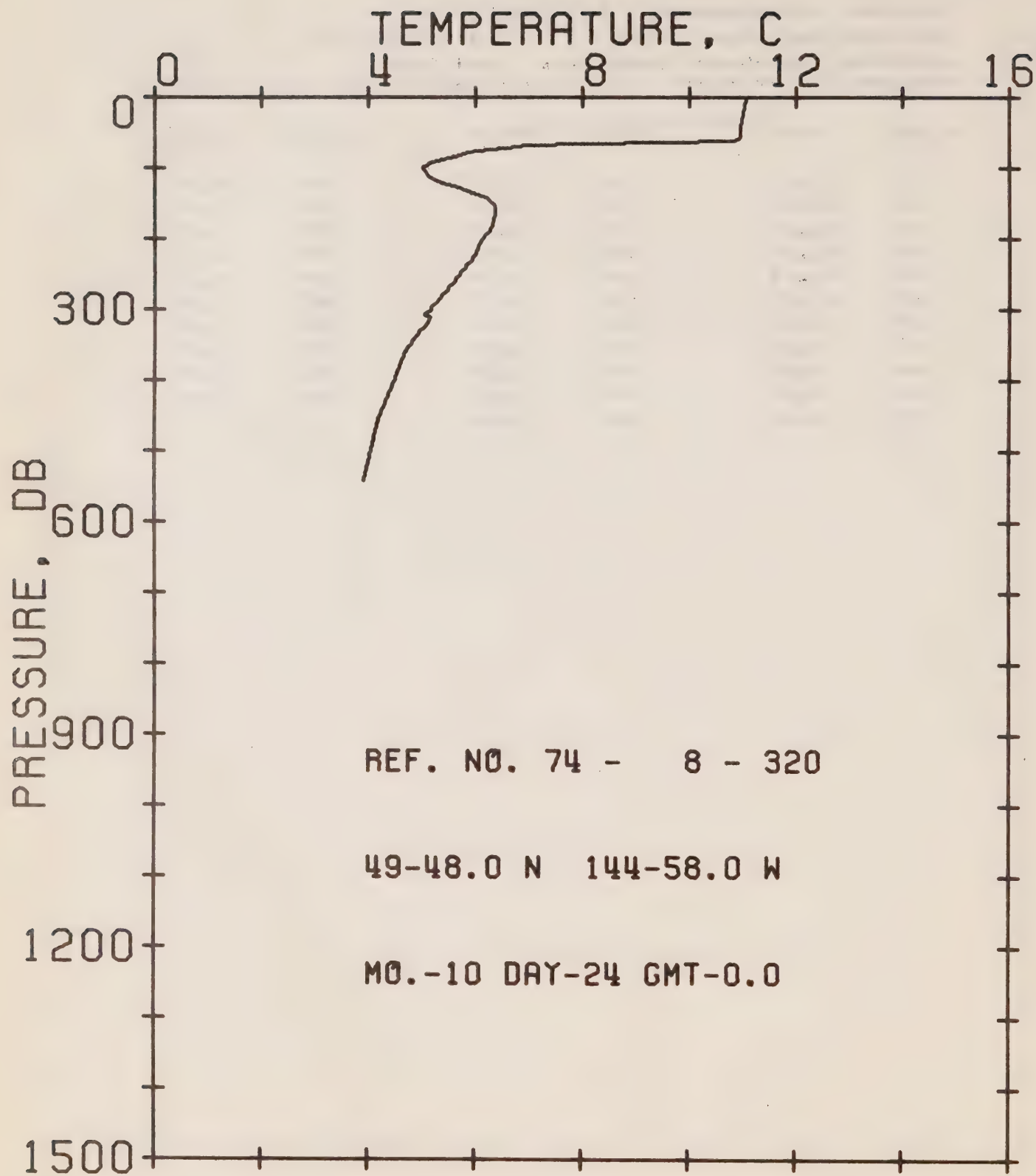
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-305 DATE 22/10/74

POSITION 49-05.8N 145-01.1W GMT 00.0

RESULTS OF XBT CAST 32 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	11.37	84	5.50	248	5.45
19	11.32	99	5.28	266	5.23
23	11.21	97	5.07	320	4.79
40	11.21	114	4.96	381	4.46
53	11.16	125	5.34	435	4.13
55	10.75	136	5.77	483	3.96
57	8.50	145	6.05	553	3.80
59	7.50	157	6.26	641	3.63
64	7.07	183	6.21	713	3.46
73	6.26	203	6.05	748	3.41
78	5.83	226	5.61		



OFFSHORE OCEANOGRAPHY

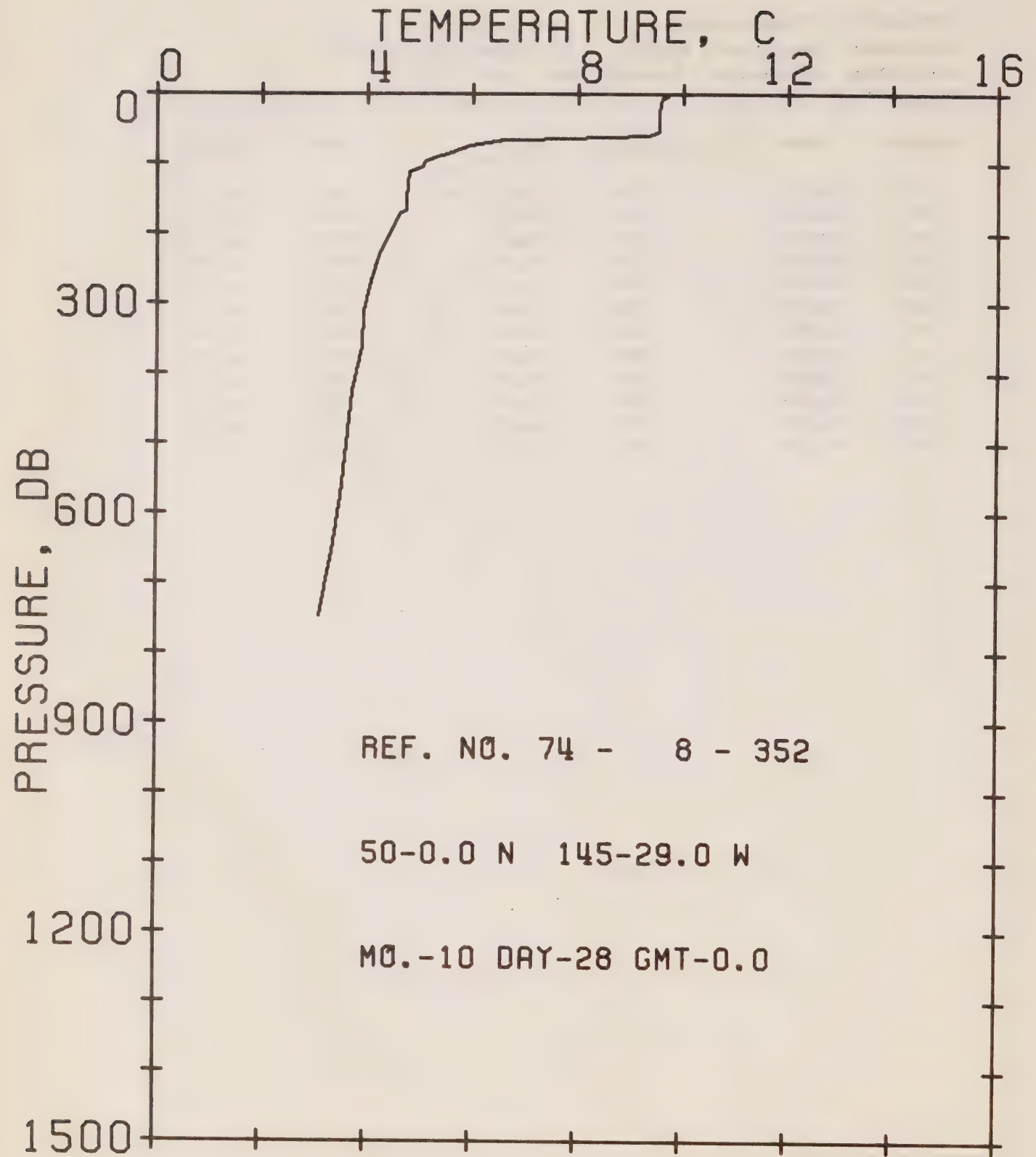
REFERENCE NO. 74- 9-320

DATE 24/10/74

POSITION 49-04.8N 144-05.8W GMT CC.0

RESULTS OF XBT CAST 36 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	11.06	94	5.12	246	5.77
24	11.01	101	5.01	264	5.56
44	10.95	113	5.12	291	5.28
55	10.95	122	5.39	308	5.07
61	10.85	128	5.67	312	5.18
66	8.08	136	5.94	319	5.12
68	6.91	143	6.21	332	4.96
70	6.80	153	6.37	360	4.68
74	6.26	167	6.37	399	4.52
78	5.88	184	6.32	456	4.18
92	5.72	203	6.10	508	4.02
89	5.28	224	5.99	542	3.91



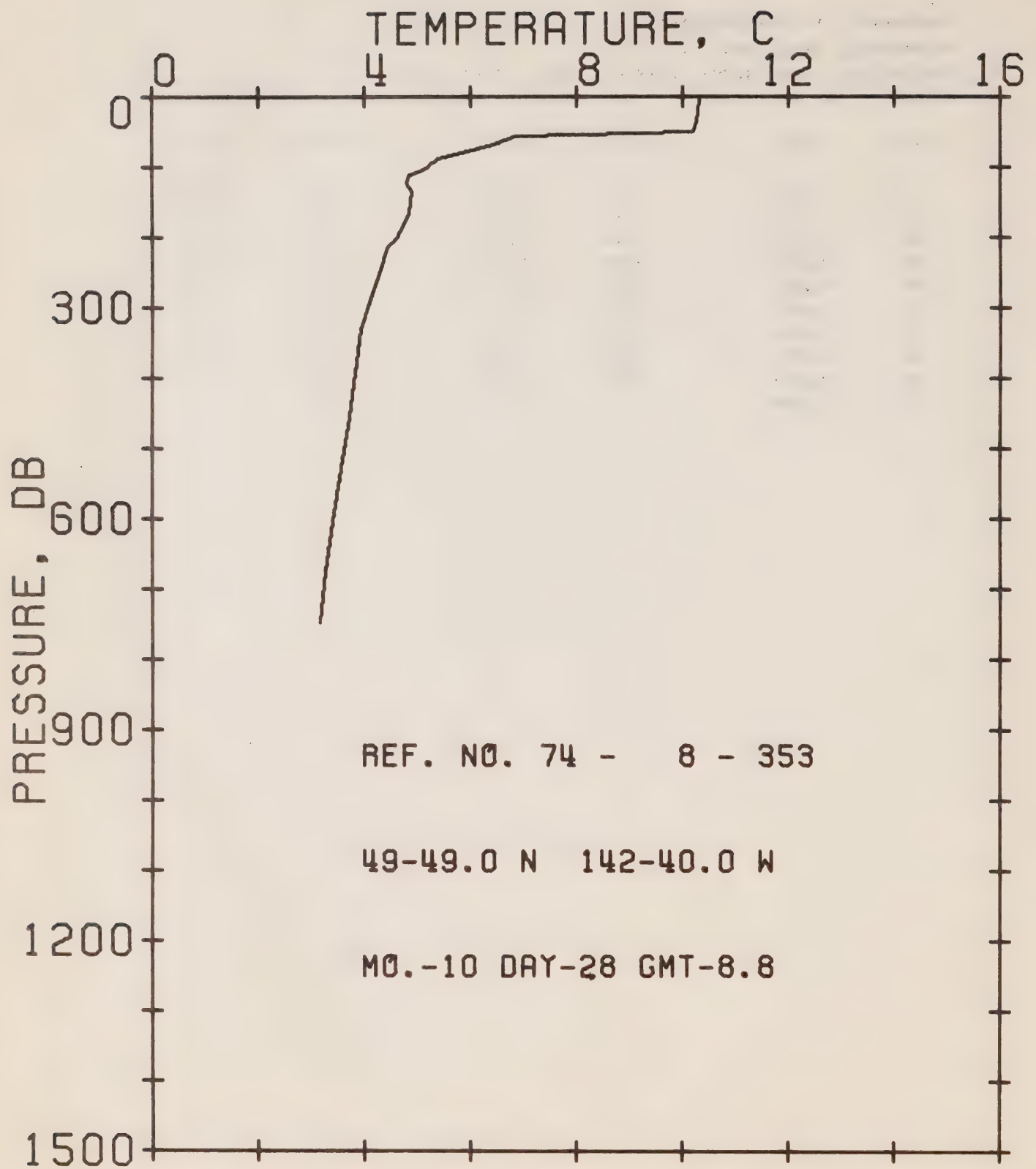
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-352 DATE 28/10/74

POSITION 50-00.0N 145-02.9W GMT 00.0

RESULTS OF XPT CAST 28 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.71	83	5.61	231	4.24
5	9.60	90	5.34	267	4.07
26	9.55	96	5.12	312	3.96
45	9.55	103	5.07	362	3.91
54	9.55	111	4.79	425	3.74
60	9.34	151	4.74	501	3.63
65	6.96	165	4.74	575	3.52
66	6.59	169	4.63	655	3.35
70	6.26	204	4.41	747	3.13
73	5.94				



OFFSHORE OCEANOGRAPHY

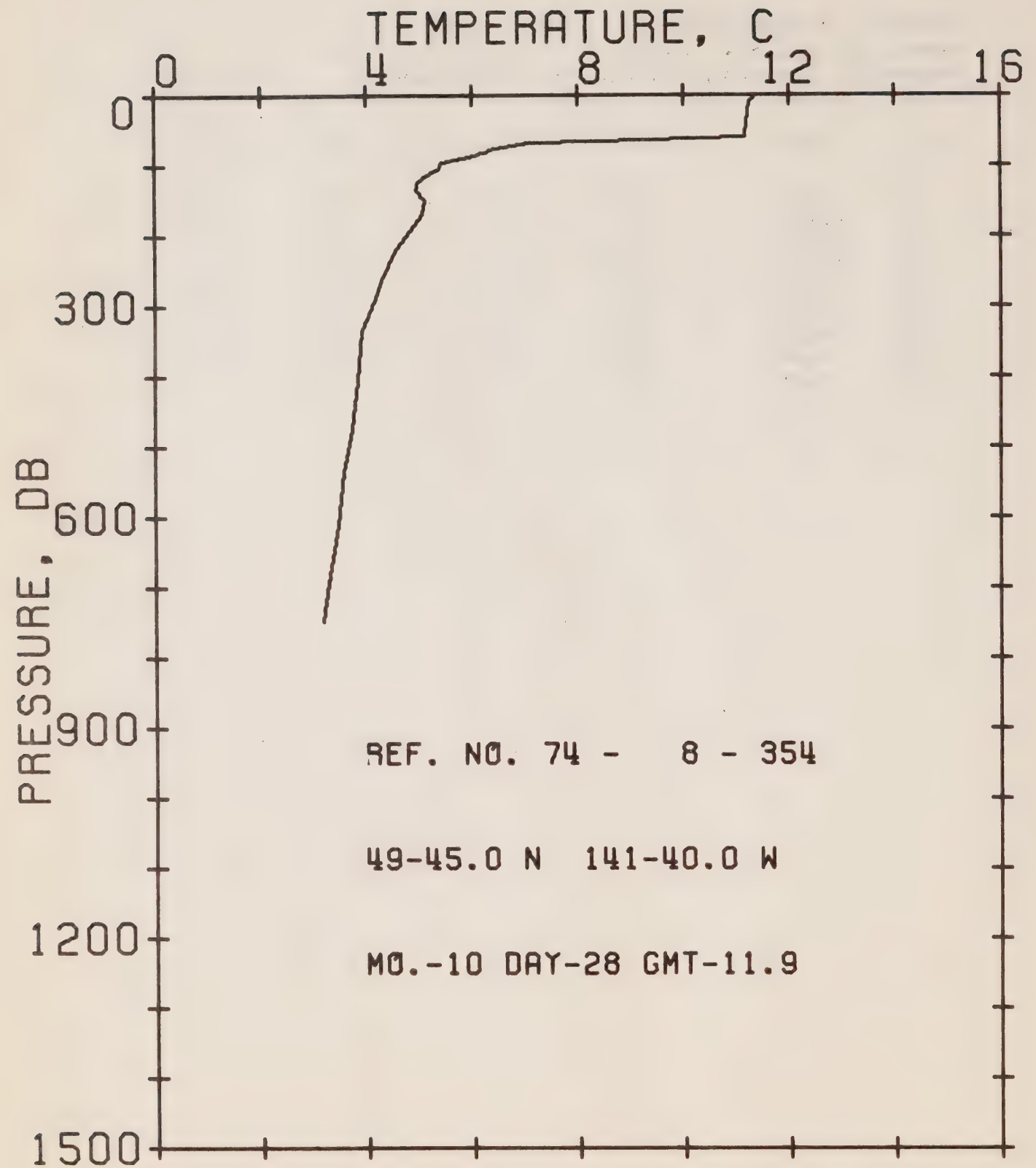
REFERENCE NO. 74- 8-353

DATE 28/10/74

POSITION 49-04.7N 142-04.0W GMT C8.8

RESULTS OF XBT CAST 26 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.33	97	5.23	287	4.13
23	10.23	105	5.12	332	3.96
44	10.23	112	4.85	393	3.85
50	10.18	124	4.79	455	3.74
54	8.07	135	4.90	530	3.57
56	6.85	167	4.85	605	3.41
68	6.42	200	4.63	675	3.29
79	5.83	215	4.46	747	3.18
88	5.39	252	4.30		



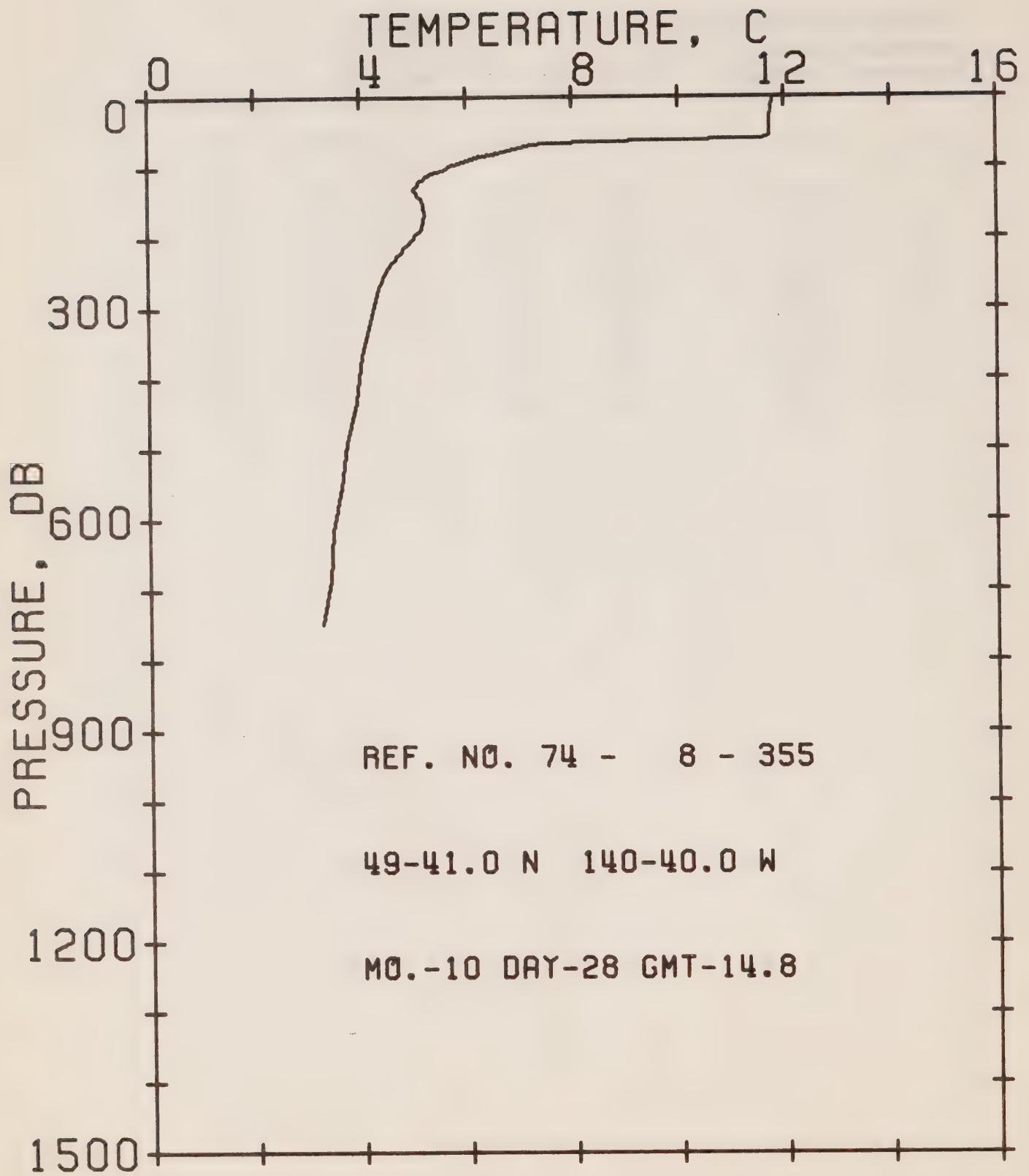
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-354 DATE 28/10/74

POSITION 49-04.5N 141-04.0W GMT 11.9

RESULTS OF XBT CAST - 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	11.32	86	6.05	221	4.57
10	11.26	96	5.45	265	4.30
39	11.21	105	5.39	287	4.18
60	11.16	107	5.28	335	3.91
65	8.29	118	5.07	405	3.85
67	7.07	126	4.96	476	3.74
73	6.59	135	4.96	535	3.57
77	6.32	149	5.12	612	3.46
91	6.26	171	5.07	693	3.29
92	6.15	186	4.90	747	3.18



OFFSHORE OCEANOGRAPHY

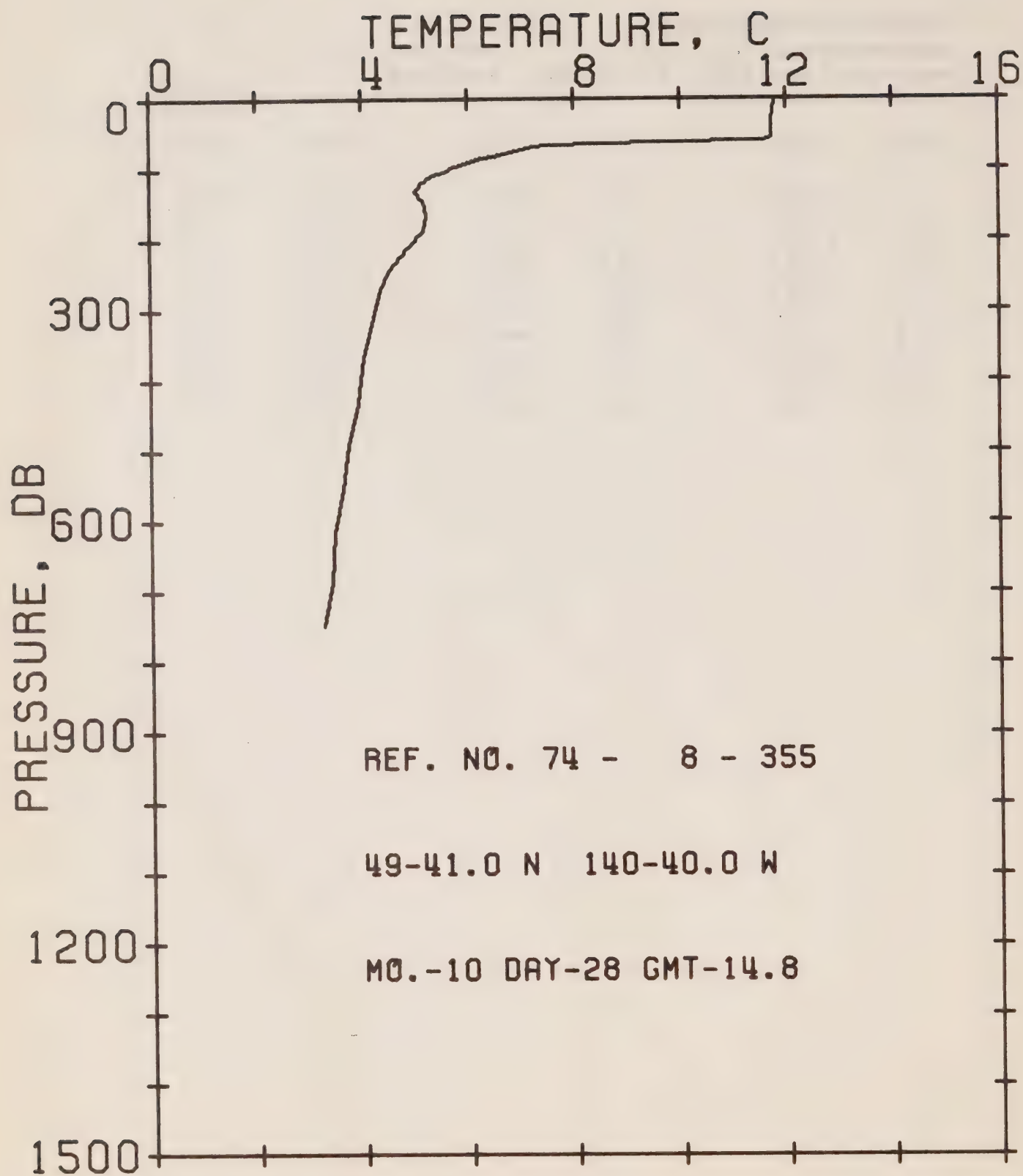
REFERENCE NO. 74- 8-354

DATE 28/10/74

POSITION 49-04.5N 141-04.0W GMT 11.9

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	11.32	86	6.05	221	4.57
10	11.26	96	5.45	265	4.30
39	11.21	105	5.39	287	4.18
60	11.16	107	5.28	335	3.91
65	8.29	118	5.07	405	3.85
67	7.07	126	4.96	476	3.74
73	6.59	135	4.96	535	3.57
77	6.32	149	5.12	612	3.46
81	6.26	171	5.07	693	3.29
82	6.15	186	4.90	747	3.18



OFFSHORE OCEANOGRAPHY

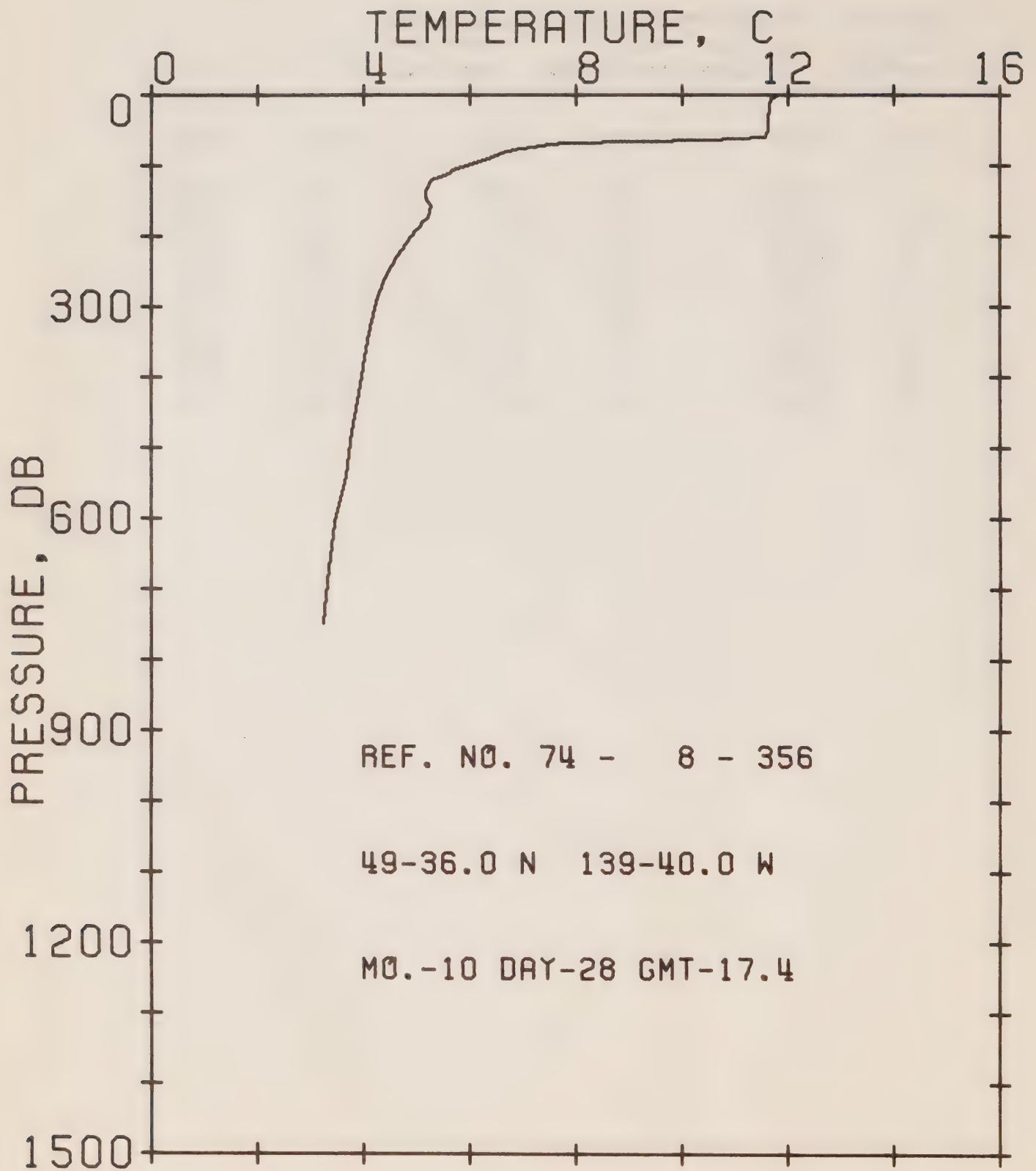
REFERENCE NO. 74- 8-355

DATE 28/10/74

POSITION 49-04.1N 140-04.0W GMT 14.8

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	11.73	92	5.94	243	4.52
32	11.73	97	5.67	272	4.35
55	11.73	103	5.56	320	4.18
59	11.57	108	5.34	367	4.02
62	9.60	119	5.12	432	3.91
65	7.50	132	5.01	491	3.74
68	7.23	145	5.18	554	3.63
75	6.80	167	5.23	616	3.46
81	6.48	186	5.18	685	3.41
83	6.26	211	4.85	748	3.24



OFFSHORE OCEANOGRAPHY

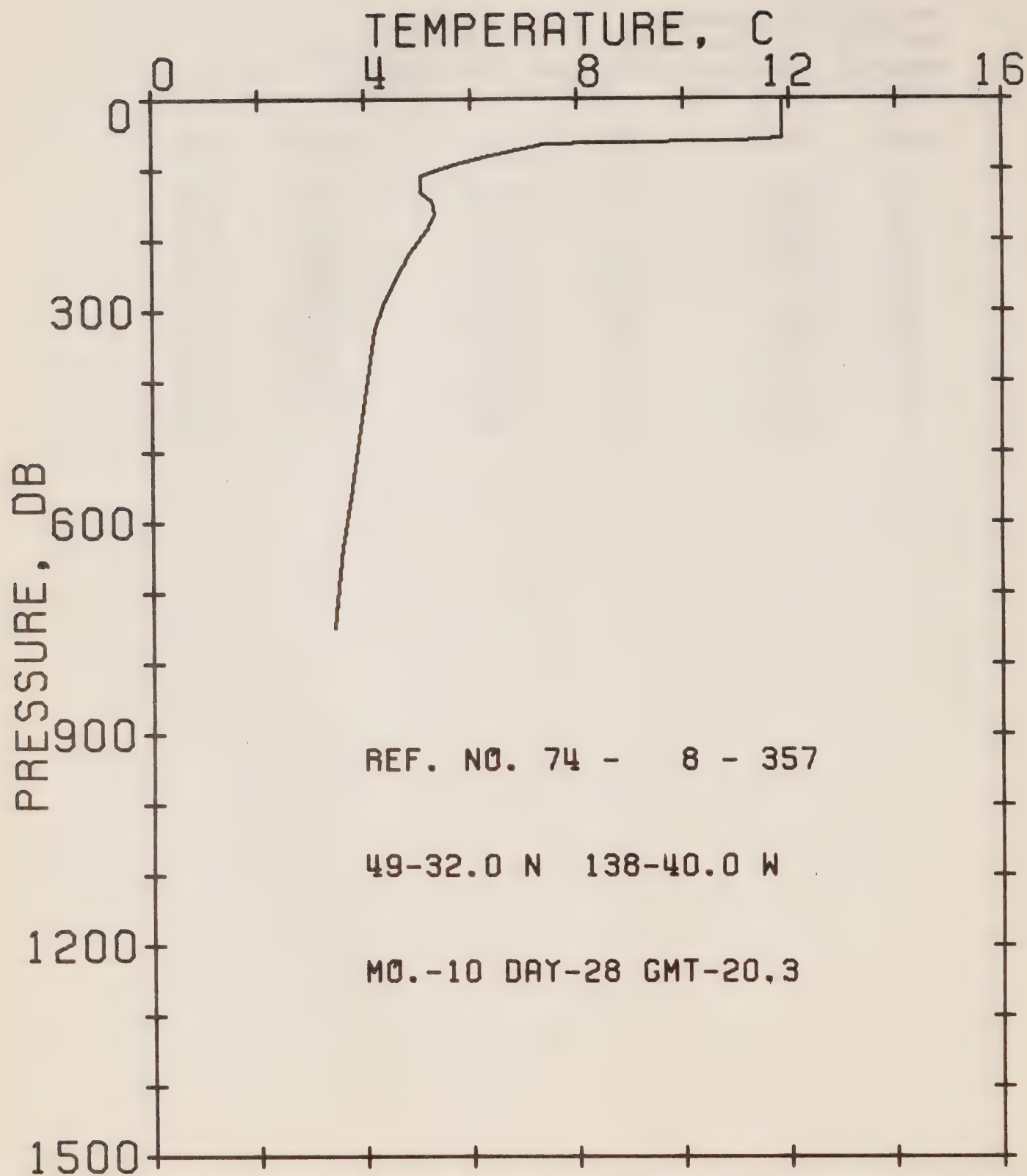
REFERENCE NO. 74- 8-356

DATE 28/10/74

POSITION 49-03.6N 139-04.0W GMT 17.4

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	11.78	85	6.48	193	4.96
4	11.68	91	6.26	227	4.63
36	11.62	99	5.94	259	4.41
52	11.62	105	5.77	294	4.24
59	11.57	106	5.67	348	4.07
63	10.40	111	5.61	412	3.96
67	7.81	121	5.28	477	3.80
69	7.50	137	5.18	540	3.68
74	7.18	146	5.18	605	3.46
76	6.96	157	5.28	671	3.35
81	6.59	172	5.23	747	3.24



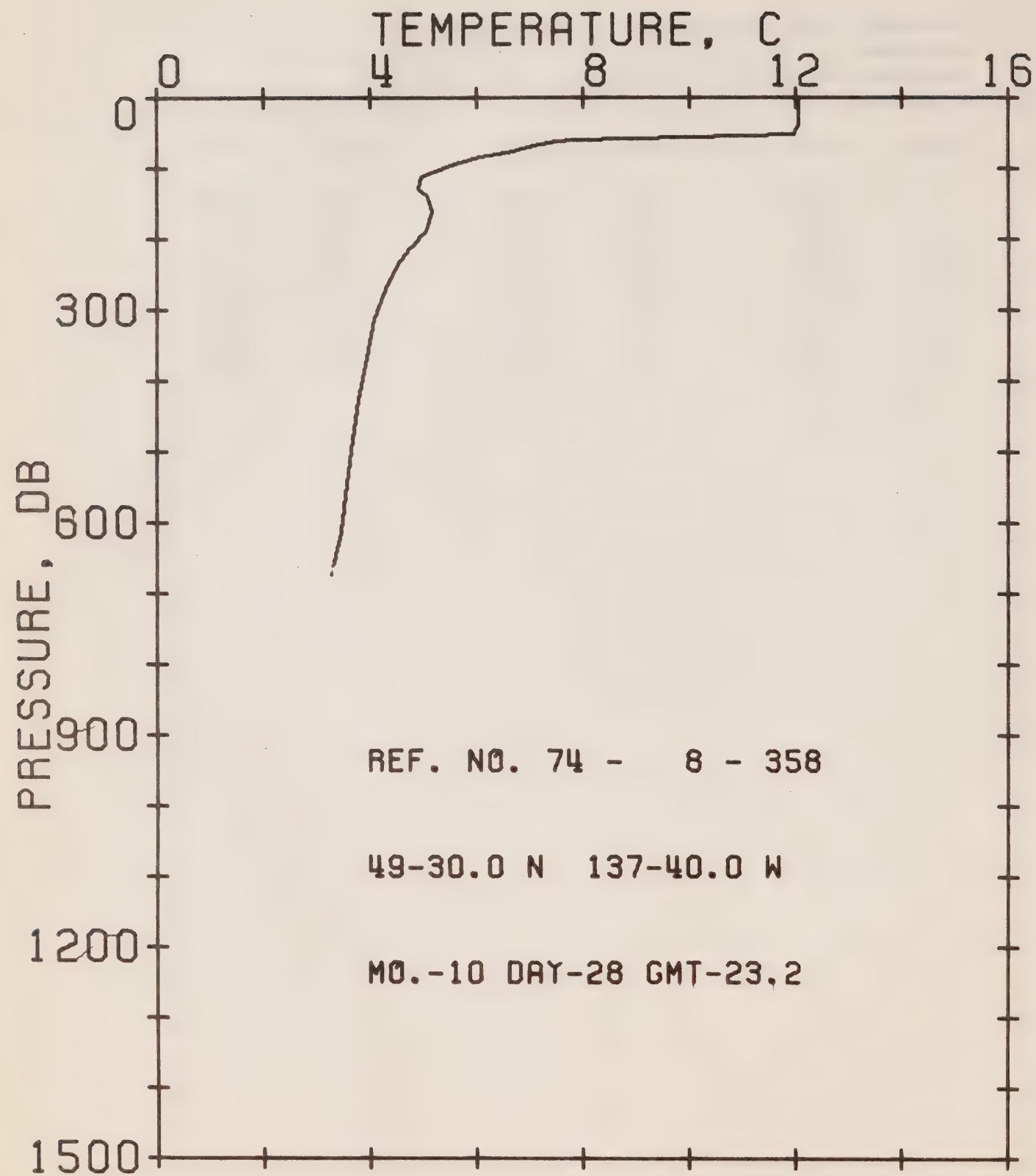
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-357 DATE 28/10/74

POSITION 49-03.2N 138-04.0W GMT 20.3

RESULTS OF XBT CAST 24 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	11.88	94	5.72	260	4.57
13	11.88	103	5.28	293	4.35
58	11.88	110	5.07	328	4.18
61	11.01	133	5.07	394	4.07
64	8.45	145	5.28	468	3.91
66	7.39	165	5.34	566	3.74
71	7.01	187	5.18	636	3.57
82	6.37	220	4.85	749	3.41



OFFSHORE OCEANOGRAPHY

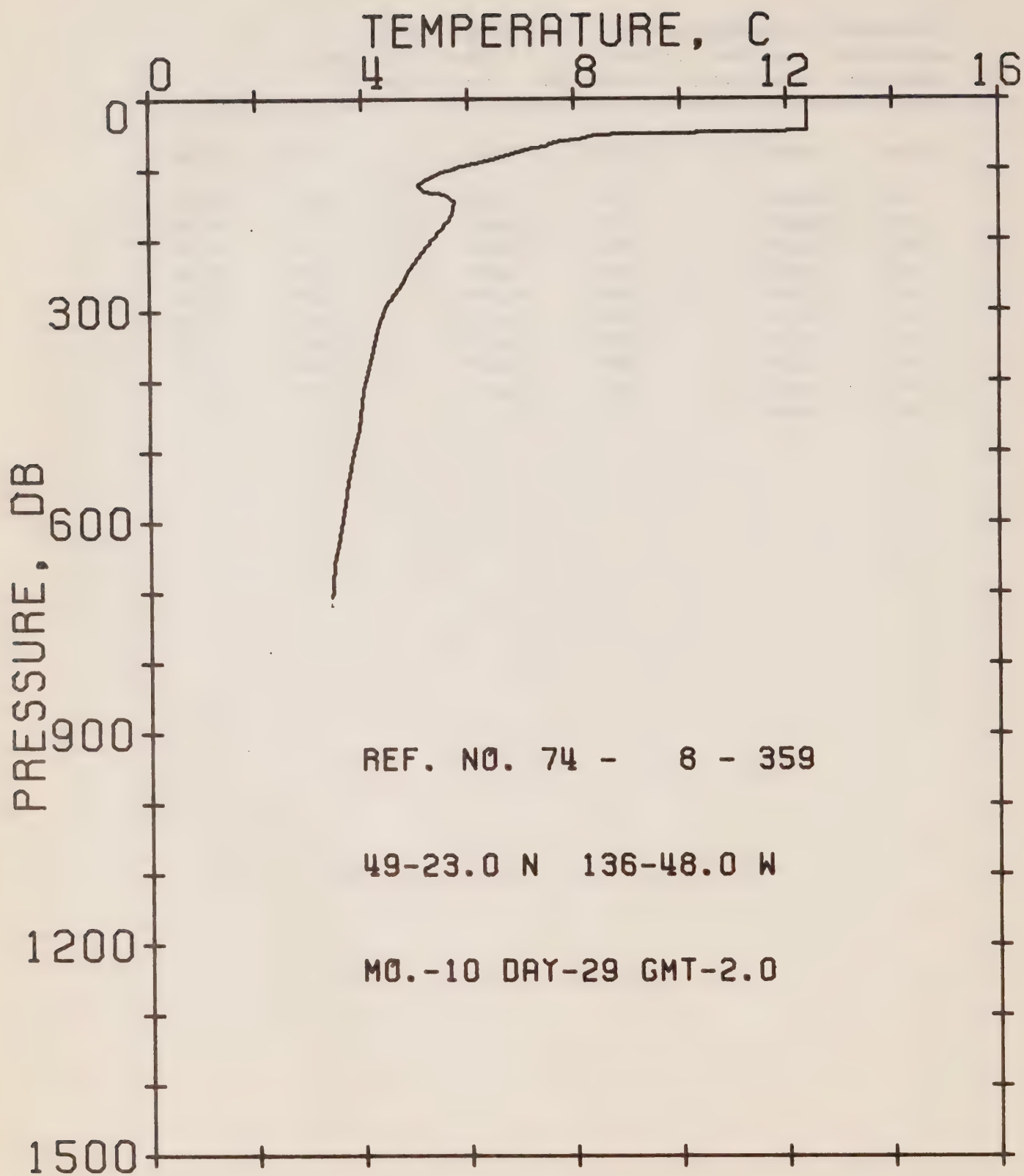
REFERENCE NO. 74- 8-358

DATE 28/10/74

POSITION 49-03.0N 137-04.0W GMT 23.2

RESULTS OF XBT CAST 23 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.04	86	5.94	239	4.52
19	12.04	97	5.45	273	4.30
52	11.98	104	5.23	314	4.07
56	9.97	113	4.96	368	3.96
59	7.81	129	4.90	427	3.80
61	7.50	138	5.07	484	3.68
67	7.07	163	5.18	545	3.57
72	6.85	187	5.07	614	3.46
75	6.69	214	4.74	674	3.29
81	6.21				



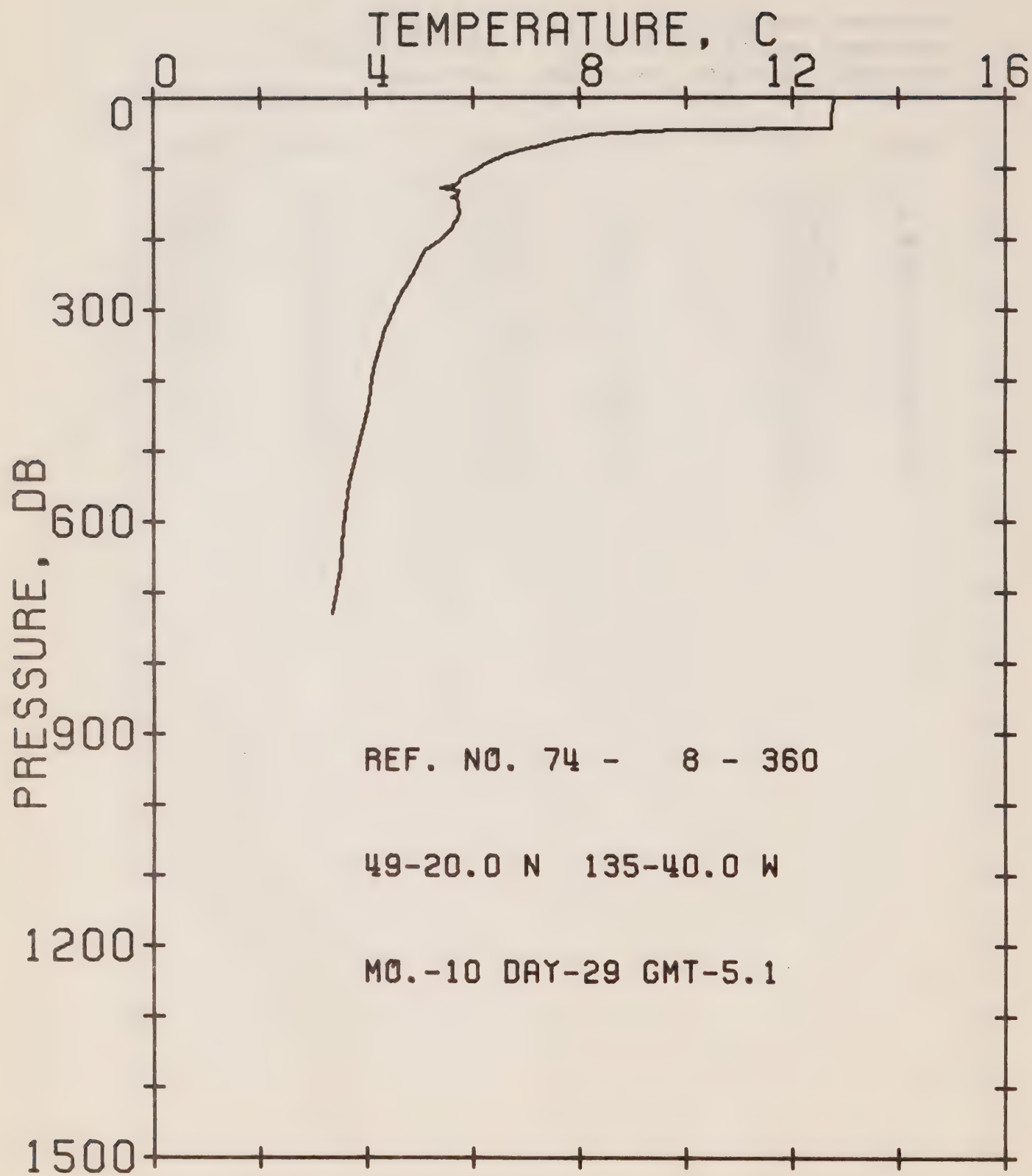
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-359 DATE 29/10/74

POSITION 49-02.3N 136-04.8W GMT 02.0

RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.40	98	5.77	264	4.74
28	12.40	99	5.77	294	4.46
46	12.40	103	5.50	328	4.30
48	11.62	109	5.39	366	4.18
50	8.98	116	5.18	414	4.02
52	8.40	123	5.07	468	3.96
58	8.08	131	5.18	502	3.85
60	7.76	135	5.56	544	3.74
64	7.55	146	5.77	574	3.68
67	7.50	165	5.72	621	3.57
70	7.23	185	5.50	660	3.46
77	6.85	210	5.23	717	3.41
90	6.26	242	4.90		



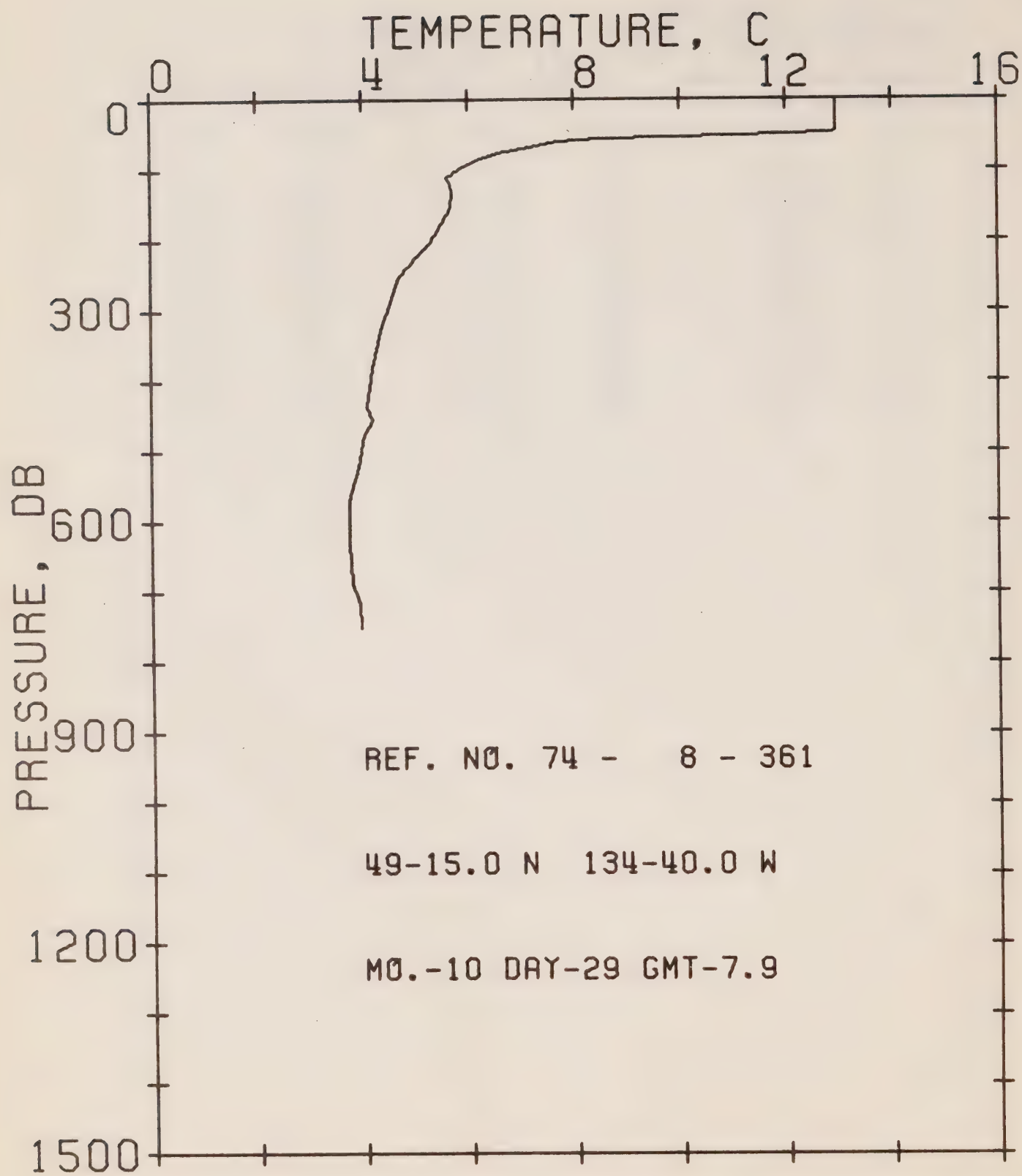
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-360 DATE 29/10/74

POSITION 49-02.0N 135-04.0W GMT 05.1

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.80	110	5.83	216	5.12
26	12.75	123	5.67	248	4.90
44	12.75	125	5.50	281	4.63
46	9.86	128	5.39	331	4.35
51	8.24	131	5.77	385	4.13
61	7.55	138	5.72	443	4.02
67	7.28	141	5.61	500	3.85
71	7.01	143	5.72	547	3.68
80	6.64	167	5.77	607	3.57
91	6.26	185	5.61	668	3.52
99	6.10	201	5.39	729	3.35



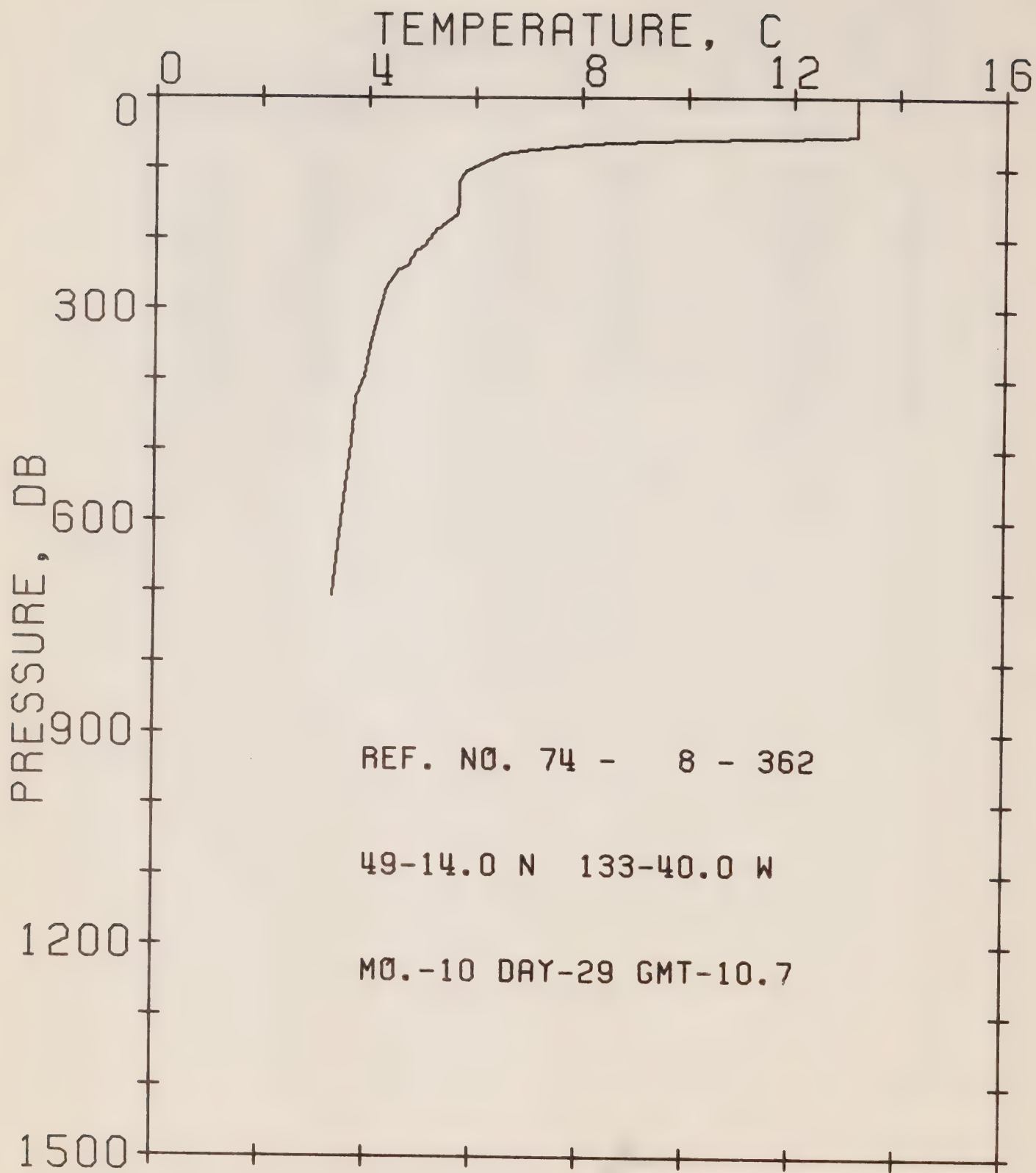
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-361 DATE 29/10/74

POSITION 49-01.5N 134-04.0W GMT 07.9

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	12.96	113	5.61	392	4.18
24	12.96	121	5.67	435	4.07
46	12.96	134	5.72	456	4.18
48	12.86	155	5.67	475	4.02
51	11.06	178	5.50	521	3.91
56	8.50	203	5.28	569	3.74
60	7.71	220	5.07	627	3.74
68	7.18	252	4.68	688	3.80
76	6.59	282	4.57	716	3.91
86	6.15	328	4.35	749	3.96
97	5.83				



OFFSHORE OCEANOGRAPHY

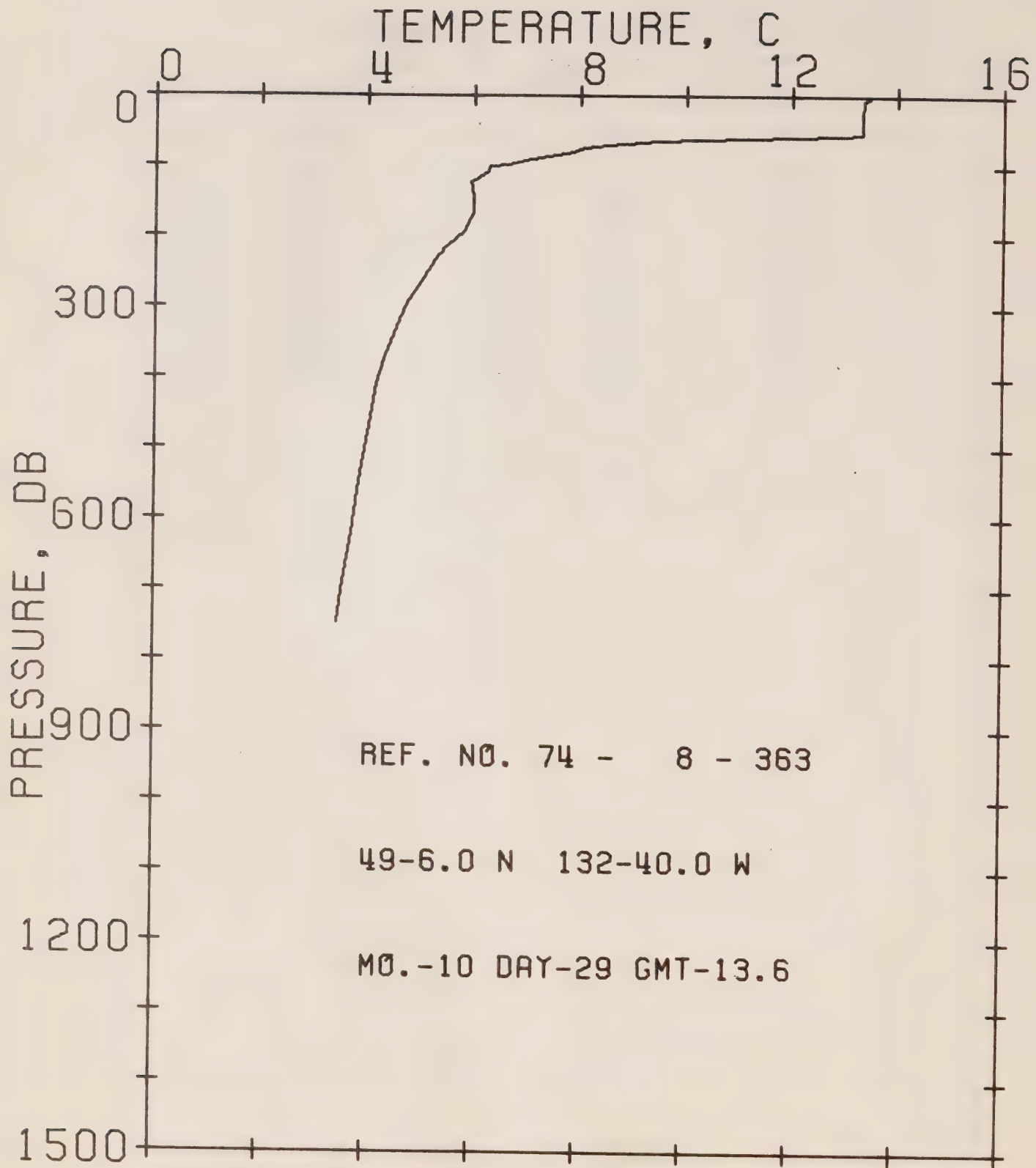
REFERENCE NO. 74- 8-362

DATE 29/10/74

POSITION 49-01.4N 133-04.0W GMT 10.7

RESULTS OF XBT CAST 29 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	13.21	105	5.83	300	4.24
31	13.21	121	5.72	343	4.07
54	13.21	148	5.72	395	3.96
56	12.86	166	5.67	426	3.80
59	10.07	183	5.28	470	3.74
63	8.66	209	5.07	508	3.68
66	8.13	218	4.90	568	3.57
74	7.07	237	4.74	636	3.46
80	6.53	247	4.57	705	3.35
93	6.10	271	4.35		



OFFSHORE OCEANOGRAPHY

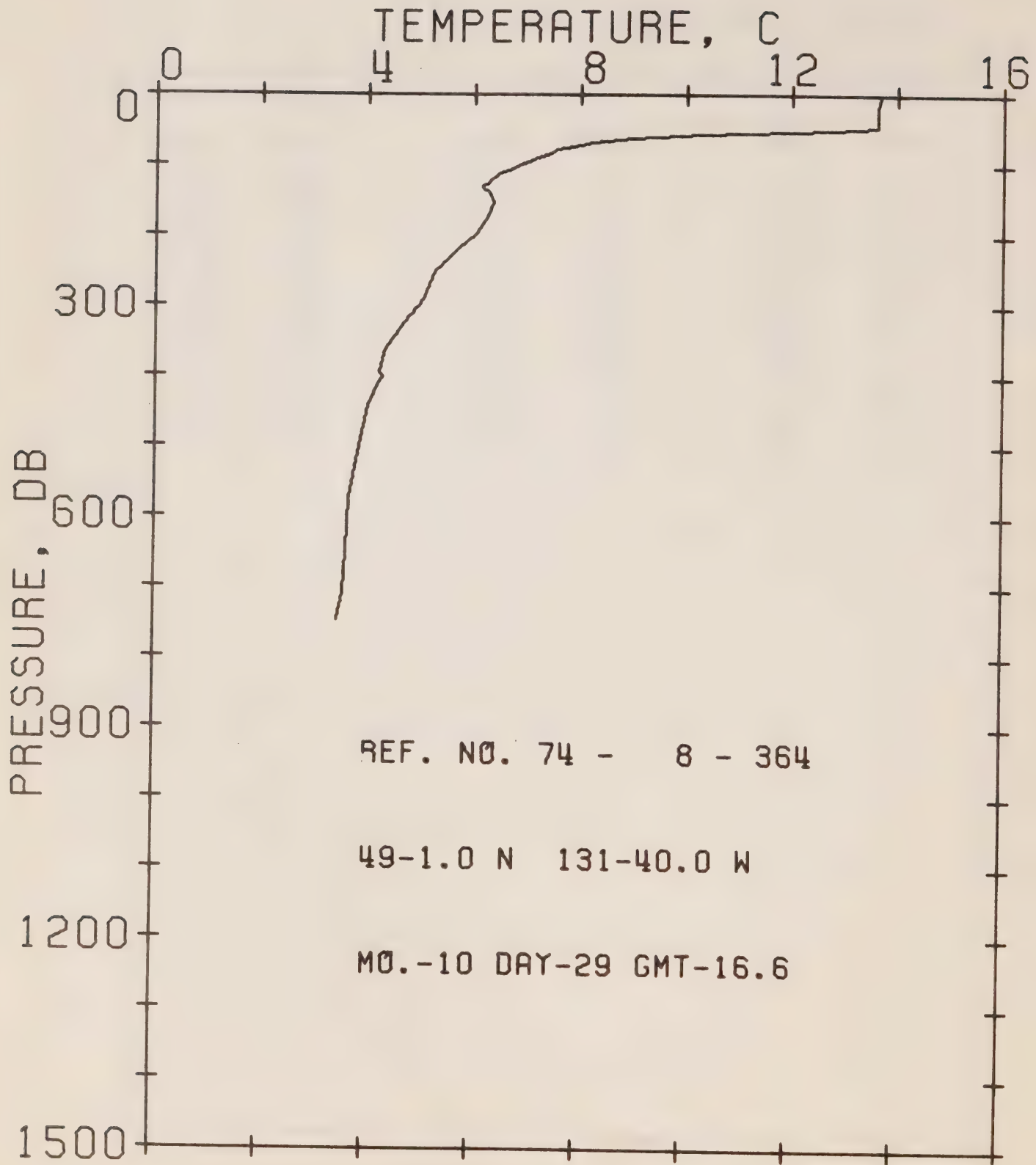
REFERENCE NO. 74- 8-363

DATE 29/10/74

POSITION 49-00.6N 132-04.0W GMT 13.6

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.47	92	6.96	266	5.01
5	13.37	97	6.64	295	4.74
32	13.32	101	6.32	330	4.57
53	13.32	107	6.26	370	4.35
55	12.91	116	6.10	410	4.18
63	9.45	122	5.94	457	4.07
65	9.19	144	5.99	513	3.96
70	8.50	167	5.99	562	3.85
74	8.08	192	5.83	622	3.74
77	7.92	201	5.67	690	3.57
80	7.87	214	5.50	748	3.46
86	7.39	229	5.34		



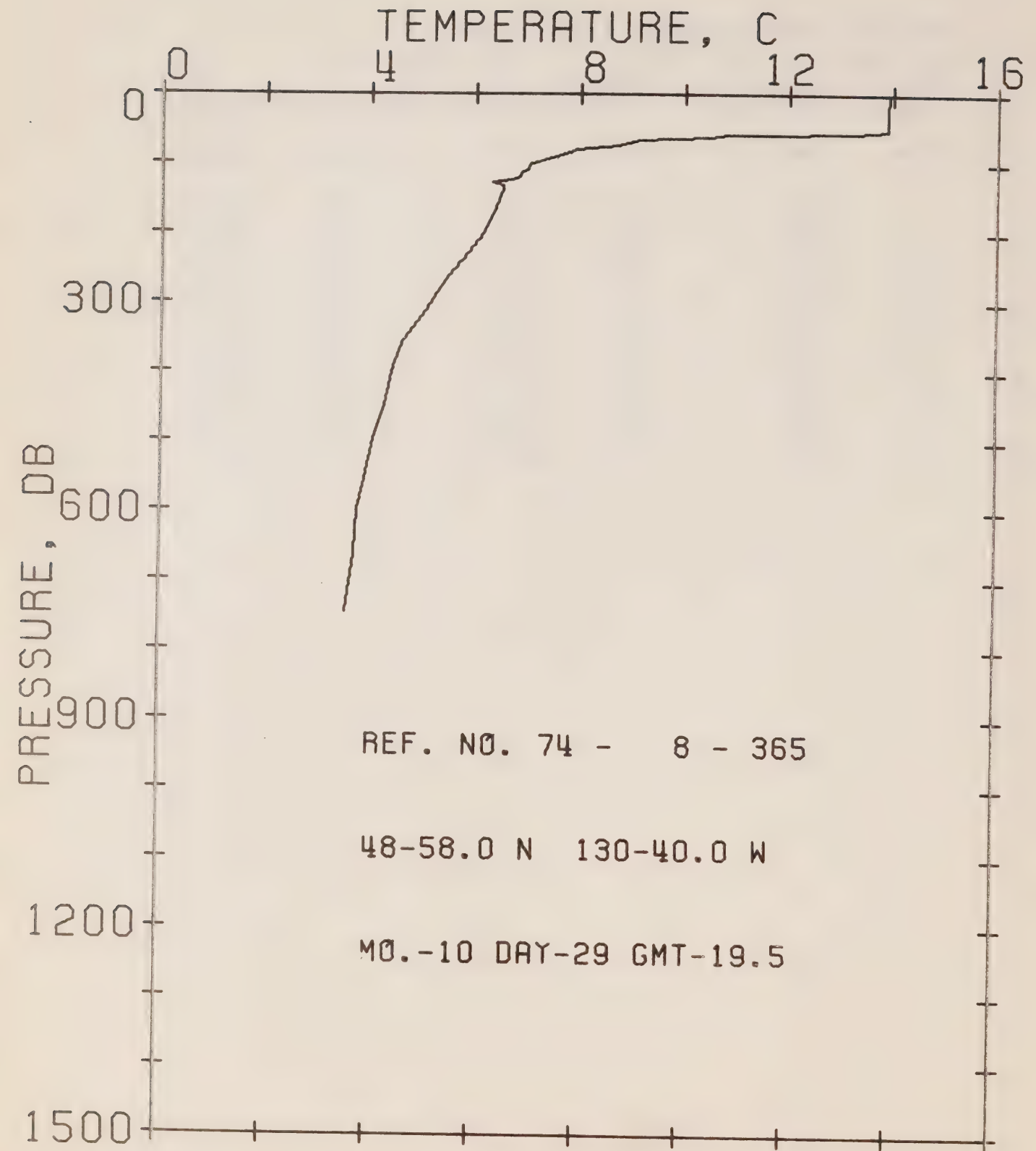
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-364 DATE 29/10/74

POSITION 49-00.1N 131-04.0W GMT 16.6

RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.67	95	7.01	292	5.07
20	13.62	100	6.85	326	4.68
45	13.62	108	6.64	365	4.35
49	12.80	113	6.48	396	4.24
55	10.33	122	6.32	403	4.30
61	8.98	131	6.15	407	4.24
68	8.24	139	6.26	443	4.02
73	7.87	153	6.37	512	3.85
76	7.71	173	6.26	573	3.68
78	7.55	197	6.05	650	3.63
83	7.44	220	5.72	709	3.57
88	7.28	251	5.28	748	3.46
92	7.12				



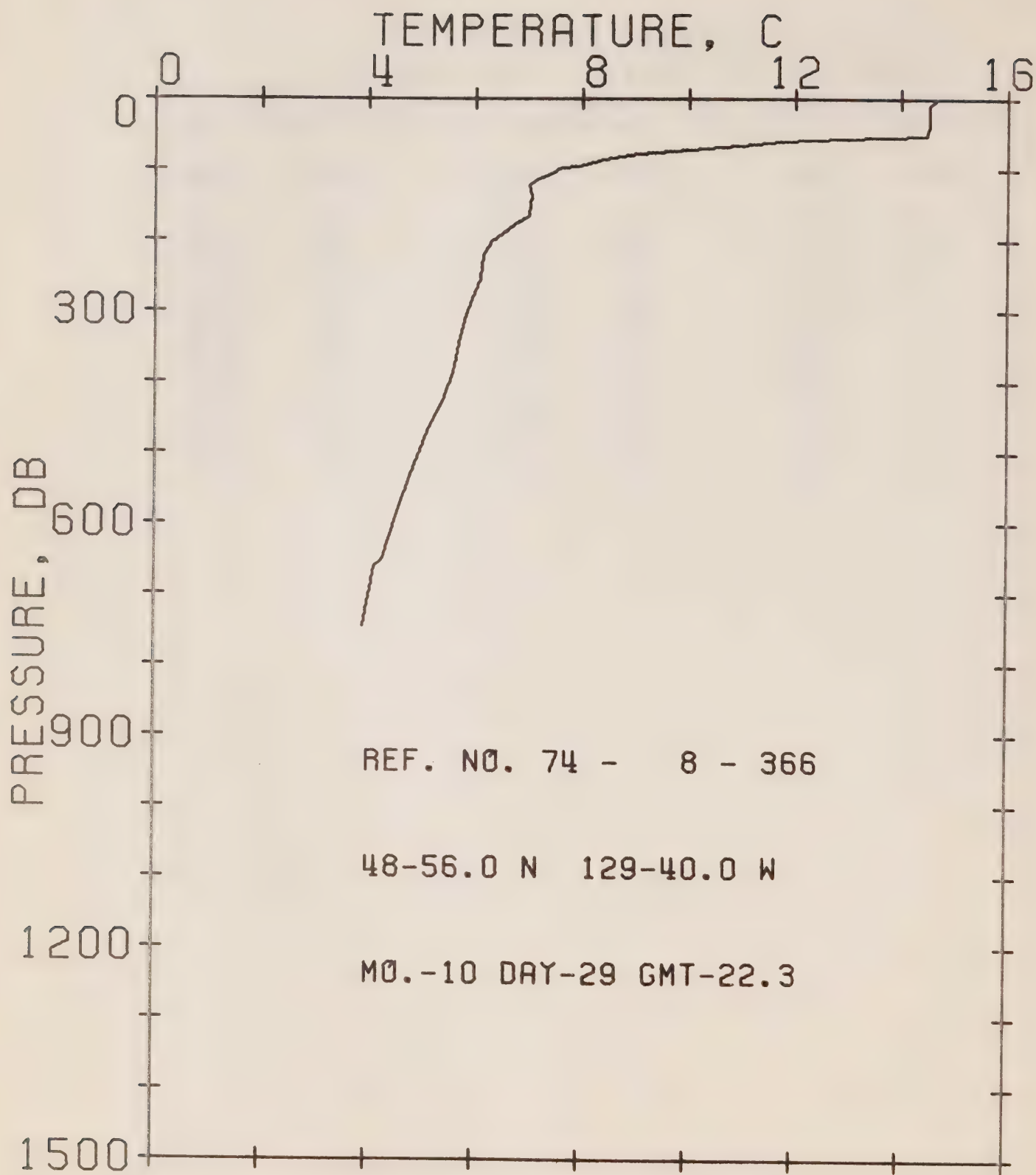
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-365 DATE 29/10/74

POSITION 48-05.8N 130-04.0W GMT 19.5

RESULTS OF XBT CAST 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
1	13.93	101	7.07	264	5.50
32	13.88	109	7.01	288	5.28
52	13.88	111	6.91	314	5.07
55	13.26	120	6.85	357	4.63
57	11.52	124	6.69	393	4.46
58	10.80	127	6.32	449	4.30
61	10.49	131	6.53	498	4.07
66	9.13	137	6.53	555	3.91
74	8.71	171	6.37	599	3.80
80	7.92	201	6.15	664	3.74
86	7.71	231	5.88	746	3.57
95	7.28				



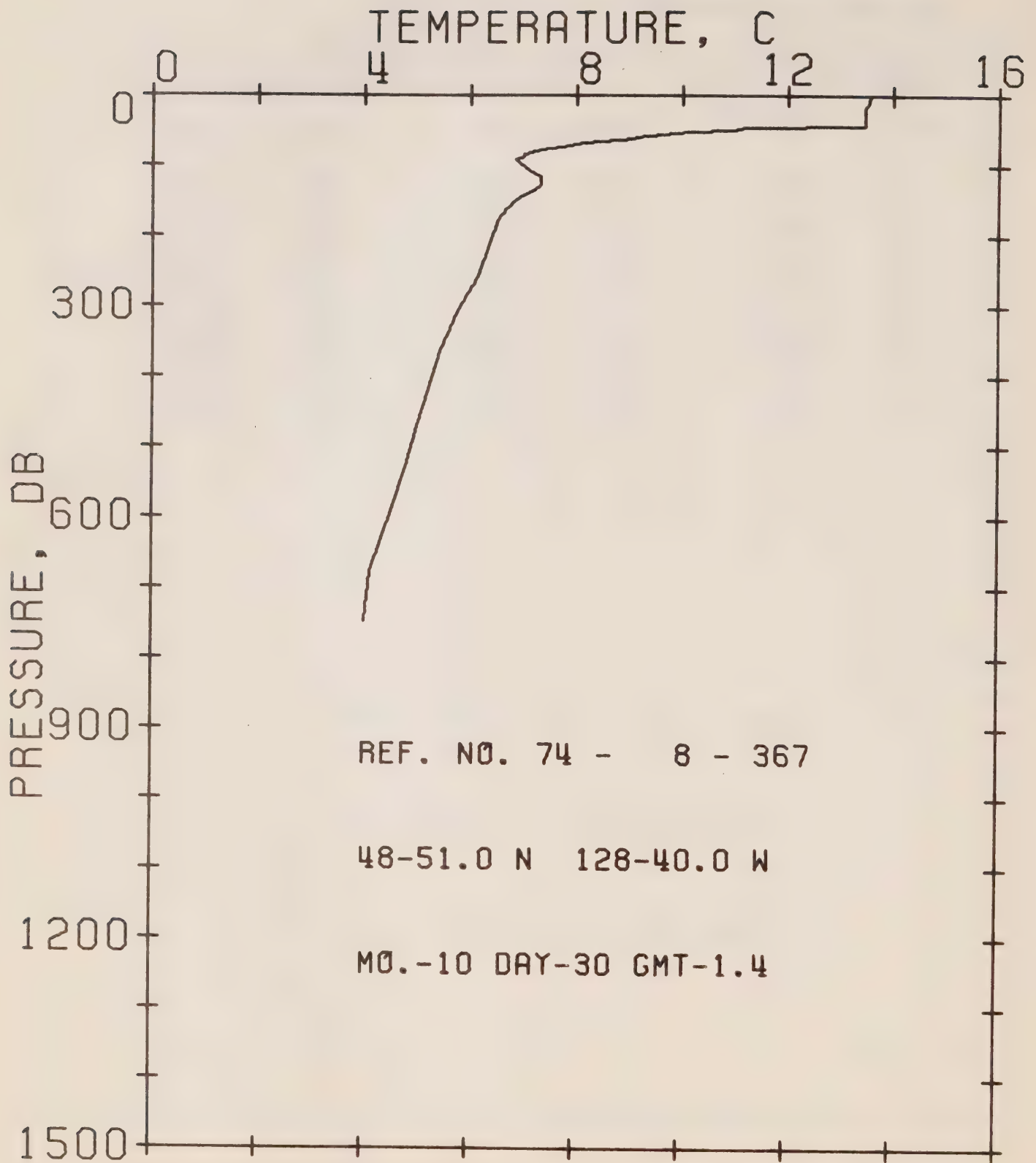
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-366 DATE 29/10/74

POSITION 48-05.6N 129-04.0W GMT 22.3

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	14.64	95	7.92	285	5.94
10	14.54	98	7.60	308	5.83
40	14.54	106	7.44	348	5.72
52	14.49	117	7.12	387	5.61
56	12.91	124	7.01	422	5.45
60	11.73	139	7.07	472	5.12
64	11.26	165	7.01	534	4.79
69	10.33	178	6.75	586	4.57
78	9.03	201	6.32	650	4.30
86	8.40	222	6.15	661	4.13
91	8.13	256	6.10	745	3.91



OFFSHORE OCEANOGRAPHY

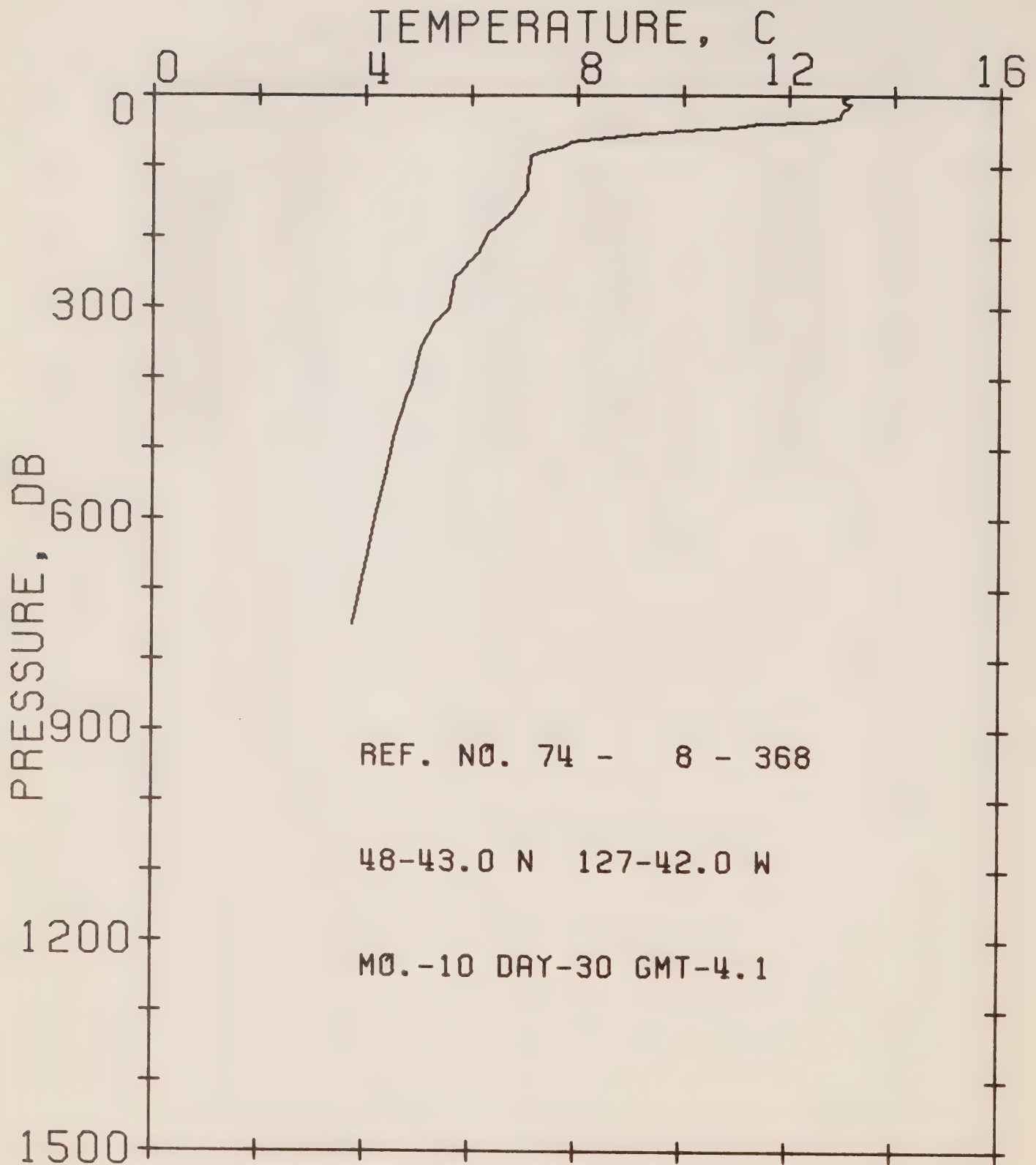
REFERENCE NO. 74- 8-367

DATE 30/10/74

POSITION 48-05.1N 128-04.0W GMT 01.4

RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.57	83	7.01	212	6.37
15	13.52	88	7.01	258	6.15
19	13.47	91	6.85	297	5.88
43	13.47	95	6.91	319	5.72
46	11.21	107	7.12	366	5.45
49	10.95	115	7.34	419	5.23
52	10.13	128	7.34	472	5.01
59	9.13	133	7.23	529	4.79
61	9.08	143	7.01	586	4.57
68	8.13	151	6.85	632	4.35
72	7.87	162	6.69	677	4.13
74	7.71	178	6.53	747	4.02
78	7.34				



OFFSHORE OCEANOGRAPHY

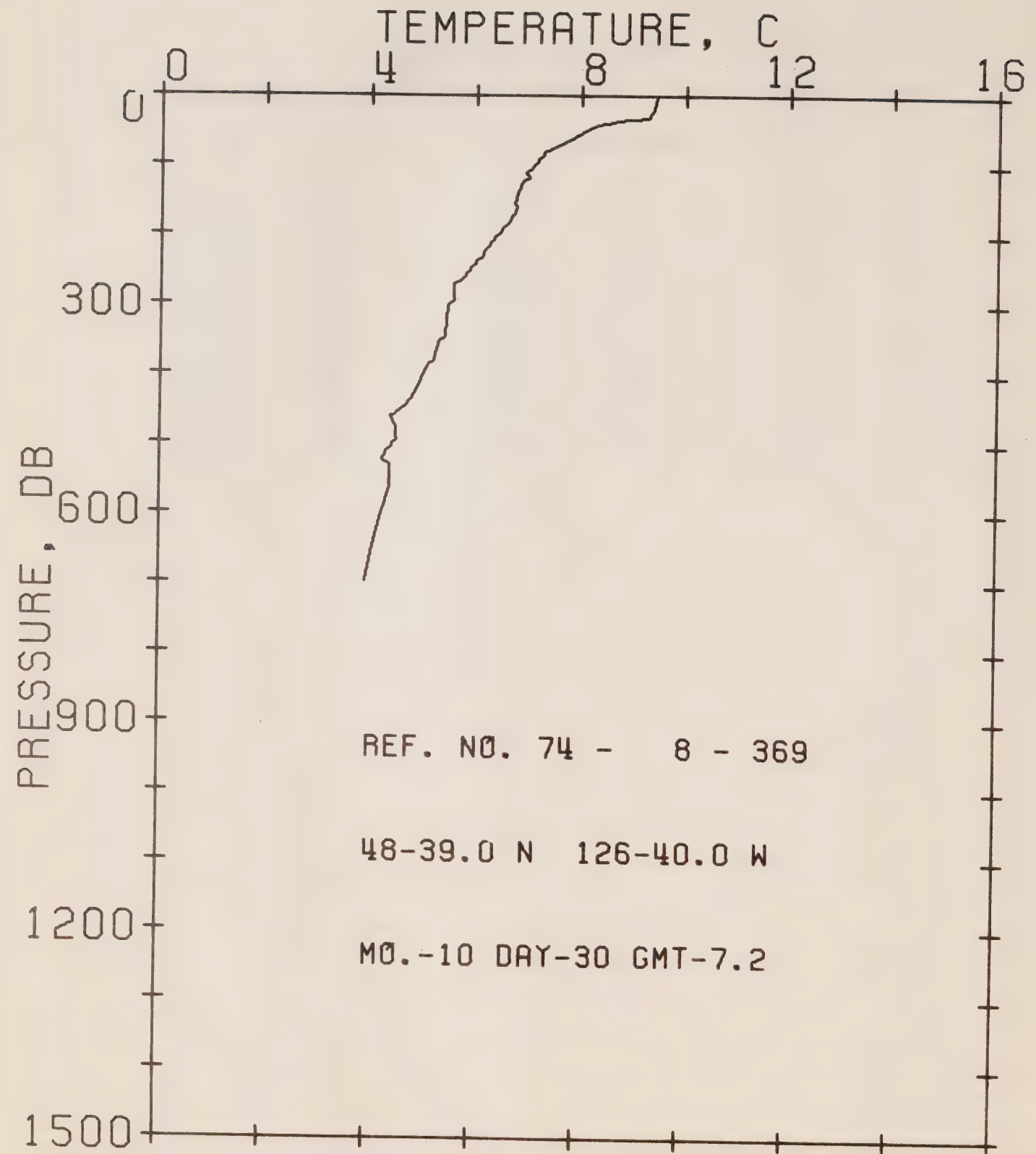
REFERENCE NO. 74- 8-368

DATE 30/10/74

POSITION 48-04.3N 127-04.2W GMT 04.1

RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	13.11	61	8.34	223	6.15
4	13.01	66	7.87	258	5.72
9	13.01	72	7.76	302	5.61
12	13.16	80	7.34	322	5.34
16	13.11	86	7.12	358	5.07
21	13.01	96	7.12	409	4.90
32	12.96	119	7.07	428	4.79
38	12.45	136	7.07	485	4.57
40	11.42	146	6.96	544	4.41
43	11.11	164	6.80	589	4.24
46	10.90	182	6.53	650	4.07
50	9.97	196	6.32	749	3.80
55	9.03				



OFFSHORE OCEANOGRAPHY

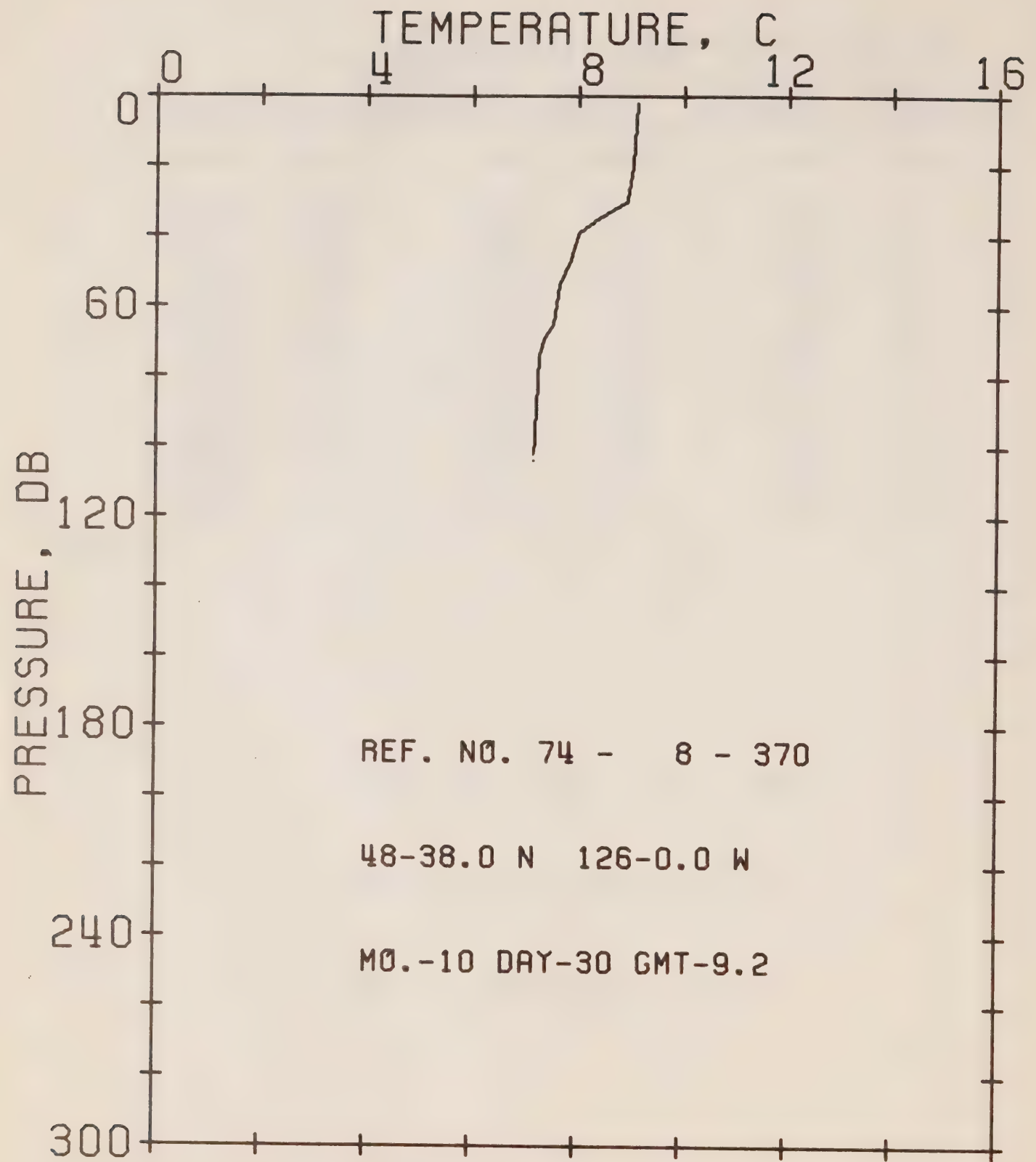
REFERENCE NO. 74- 8-369

DATE 30/10/74

POSITION 48-03.9N 126-04.0W GMT 07.2

RESULTS OF XBT CAST 42 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	9.45	141	6.80	381	5.23
19	9.39	156	6.75	385	5.12
31	9.29	161	6.80	429	4.85
35	8.66	182	6.64	446	4.68
37	8.61	205	6.37	461	4.41
41	8.29	226	6.15	476	4.52
48	8.13	230	6.15	495	4.52
60	7.87	235	6.05	510	4.35
72	7.55	265	5.77	523	4.24
80	7.34	270	5.61	530	4.41
100	7.12	294	5.61	564	4.41
111	6.96	302	5.50	602	4.24
118	7.01	347	5.45	648	4.07
122	6.91	352	5.34	698	3.96



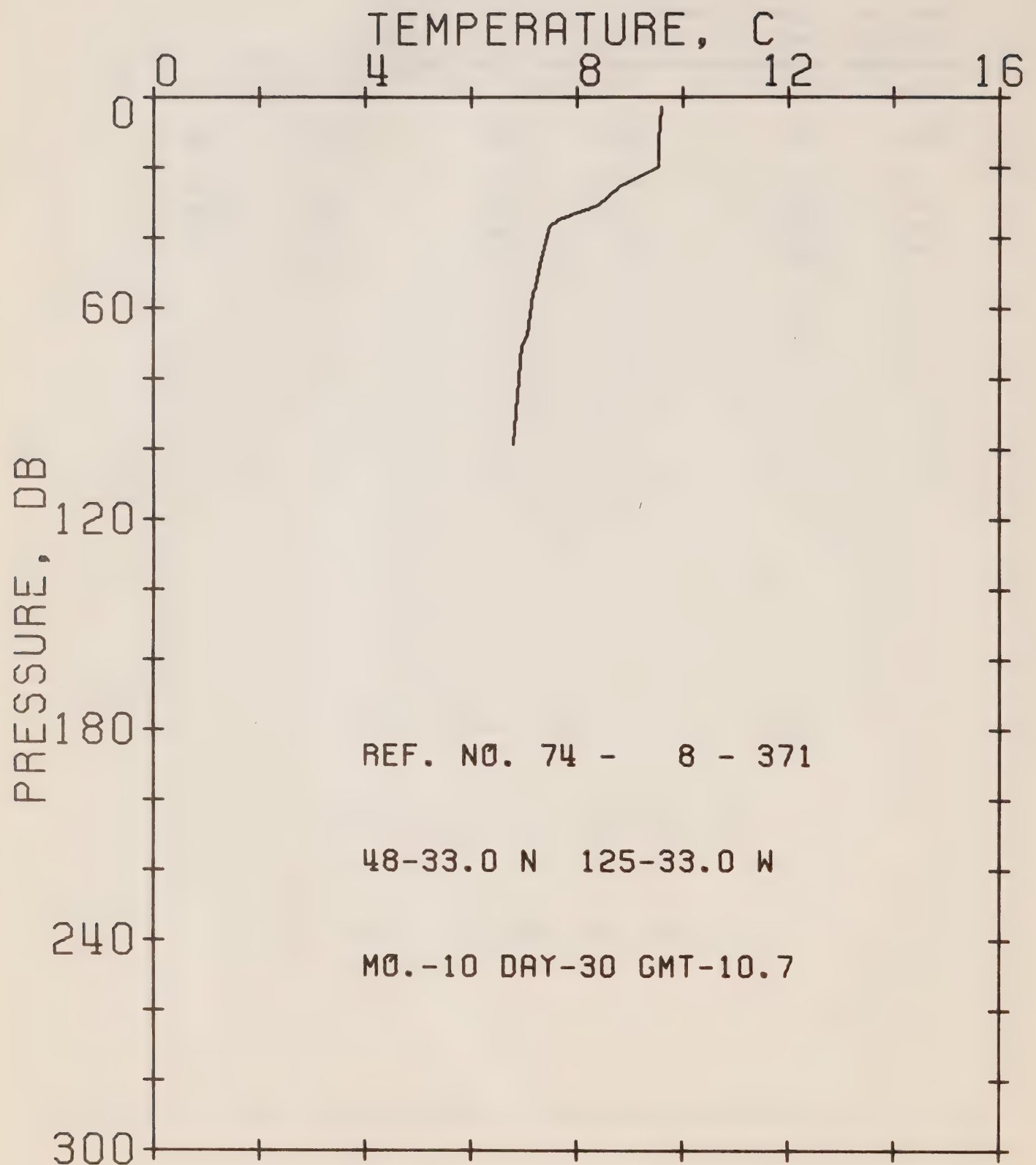
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-370 DATE 30/10/74

POSITION 48-03.8N 126-00.0W GMT 09.2

RESULTS OF XBT CAST 11 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	9.13	39	8.03	69	7.39
20	9.03	47	7.87	74	7.28
30	8.92	54	7.65	104	7.18
35	8.40	65	7.55		



OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 8-371

DATE 30/10/74

POSITION 48-03.3N 125-03.3W GMT 10.7

RESULTS OF XBT CAST 14 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.60	35	7.65	58	7.07
13	9.55	37	7.50	71	6.96
20	9.55	46	7.34	90	6.85
25	8.82	54	7.23	99	6.80
31	8.40	56	7.18		

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-74-8)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 8

DATE/TIME				SALINITY	TEMP	LONGITUDE
YP	MO	DAY	GMT	0/00	C	WEST
74	9	14	0	31.941	14.1	125-33
74	9	14	155	31.470	14.5	126- 0
74	9	14	425	31.567	16.1	126-39
74	9	14	740	31.869	16.0	127-40
74	9	14	1540	32.562	15.8	130-40
74	9	15	0	32.458	15.6	132-22
74	9	15	640	32.368	15.0	134-38
74	9	15	1400	32.492	14.5	136-40
74	9	15	2035	32.549	14.2	138-38
74	9	17	0	32.595	13.7	ON STATION
74	9	18	0	32.579	13.9	ON STATION
74	9	19	0	32.520	13.6	ON STATION
74	9	20	0	32.539	13.2	ON STATION
74	9	21	0	32.552	13.1	ON STATION
74	9	22	0	32.525	13.1	ON STATION
74	9	23	0	32.545	13.4	ON STATION
74	9	24	0	32.544	13.9	ON STATION
74	9	25	0	32.530	13.3	ON STATION
74	9	26	0	32.527	13.6	ON STATION
74	9	27	0	32.561	13.8	ON STATION
74	9	28	0	32.551	13.7	ON STATION
74	9	29	0	32.546	13.8	ON STATION
74	9	30	0	32.510	13.6	ON STATION
74	10	1	0	32.448	13.8	ON STATION
74	10	2	0	32.537	13.2	ON STATION
74	10	3	0	32.518	11.9	ON STATION
74	10	4	0	32.506	12.8	ON STATION
74	10	5	0	32.554	12.5	ON STATION
74	10	6	0	32.507	13.0	ON STATION
74	10	7	0	32.508	13.0	ON STATION
74	10	8	0	32.437	12.9	ON STATION
74	10	9	0	32.476	12.8	ON STATION
74	10	10	0	32.431	12.6	ON STATION
74	10	11	0	32.484	12.9	ON STATION
74	10	12	0	32.478	12.0	ON STATION
74	10	13	0	32.484	12.1	ON STATION
74	10	14	0	32.471	12.4	ON STATION
74	10	15	0	32.513	11.5	ON STATION
74	10	16	0	32.564	11.0	ON STATION
74	10	17	0	32.543	11.5	ON STATION
74	10	18	0	32.523	11.4	ON STATION
74	10	18	1800	32.497	11.7	ON STATION
74	10	18	1900	32.498	11.7	ON STATION
74	10	18	2000	32.496	11.7	ON STATION
74	10	18	2100	32.487	11.7	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 8

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
74	10	18	2100	32.487	11.7	ON STATION
74	10	18	2200	32.487	11.7	ON STATION
74	10	18	2300	32.486	11.6	ON STATION
74	10	19	0	32.477	11.6	ON STATION
74	10	19	100	32.474	11.6	ON STATION
74	10	19	200	32.476	11.6	ON STATION
74	10	19	300	32.474	11.6	ON STATION
74	10	19	400	32.475	11.6	ON STATION
74	10	19	500	32.477	11.6	ON STATION
74	10	19	600	32.477	11.6	ON STATION
74	10	19	700	32.478	11.5	ON STATION
74	10	19	800	32.486	11.5	ON STATION
74	10	19	900	32.477	11.4	ON STATION
74	10	19	1000	32.490	11.3	ON STATION
74	10	19	1100	32.494	11.2	ON STATION
74	10	19	1200	32.496	11.2	ON STATION
74	10	19	1300	32.497	11.2	ON STATION
74	10	19	1400	32.500	11.3	ON STATION
74	10	19	1500	32.504	11.2	ON STATION
74	10	19	1600	32.502	11.2	ON STATION
74	10	19	1700	32.499	11.2	ON STATION
74	10	19	1800	32.496	11.2	ON STATION
74	10	20	0	32.483	11.2	ON STATION
74	10	21	0	32.486	11.4	ON STATION
74	10	22	0	32.486	11.3	ON STATION
74	10	23	0	32.483	11.0	ON STATION
74	10	24	0	32.461	11.1	ON STATION
74	10	25	0	32.471	10.9	ON STATION
74	10	26	0	32.486	11.2	ON STATION
74	10	27	0	32.545	9.8	ON STATION
74	10	28	0	32.556	10.1	ON STATION
74	10	28	900	32.508	10.2	142-40
74	10	28	1155	32.499	11.0	141-40
74	10	28	1450	32.509	11.5	140-40
74	10	28	1725	32.497	11.4	139-40
74	10	28	2020	32.478	11.7	138-40
74	10	28	2315	32.449	12.0	137-40
74	10	29	200	32.456	12.2	136-48
74	10	29	500	32.491	12.6	135-40
74	10	29	756	32.415	12.9	134-40
74	10	29	1045	32.407	13.1	133-40
74	10	29	1340	32.438	13.1	132-40
74	10	29	1640	32.501	13.4	131-40
74	10	29	1935	32.557	13.6	130-40
74	10	29	2220	32.404	14.2	129-40

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 8

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
74	10	29	2220	32.404	14.2	129-40
74	10	30	125	32.012	13.5	128-40
74	10	30	410	31.945	13.0	127-42
74	10	30	715	32.409	9.3	126-40
74	10	30	913	32.653	8.8	126- 0
74	10	30	1043	32.478	9.4	125-33

12. 12. 1912

13. 12. 1912

14. 12. 1912

15. 12. 1912

CAI EP 321
-75R06

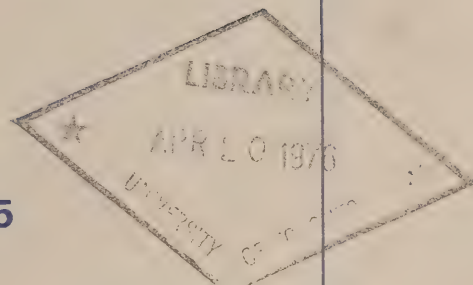
*Canada Marine Sciences Directorate
Pacific Region*

**OCEANOGRAPHIC OBSERVATIONS
AT OCEAN STATION P
(50° N, 145° W)
Volume 63**

25 October 1974 – 15 January 1975

by

R. Bellegay, B.L. Twaites, T.A. Smythe, C. de Jong



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OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N, 145°W)

Volume 63

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by

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ABSTRACT

Physical, chemical and biological oceanographic observations are made from the weathership at Ocean Weather Station Papa, and between Esquimalt and Station Papa, on a routine continuing basis. Physical oceanography data only are shown, including profiles obtained with bottle casts, conductivity-temperature-pressure instruments, and mechanical and expendable bathythermographs. Surface observations are also shown.

INTRODUCTION

Canadian operation of Ocean Weather Station P (Latitude 50°00'N, Longitude 145°00'W) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the *CCGS VANCOUVER* and the *CCGS QUADRA*. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July, 1952. A program of more extensive oceanographic observations commenced in August, 1956. This was extended in April, 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections, in addition to being made on Line P oceanographic stations, are also made at odd meridians at 40', i.e., 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins *et al*, (1969).

The present record includes hydrographic, bathythermograph and continuously sampled STP data collected from the *CCGS VANCOUVER* during the period 25 October to 11 December, 1974; bathythermograph and surface temperature and salinity data collected from the *CCGS QUADRA* during the period 6 December, 1974 to 15 January 1975.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, British Columbia, Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Ocean and Aquatic Sciences, Department of the Environment, 512-1230 Government Street, Victoria, British Columbia, Canada.

PROGRAM OF OBSERVATIONS FROM CCGS VANCOUVER, 25 October - 11 December, 1974
(P-74-9) (CODC Ref. No. 15-74-009)

Oceanographic observations were made by Mr. R. Bellegay, Ocean and Aquatic Sciences, Department of the Environment; Mr. B.L. Twaites and Mr. T.A. Smyth of Chemex Labs Ltd., North Vancouver, B.C.

En route to Station P, Line P stations 1, 2, 3, 4, and 6 were occupied and a STP profile made to near bottom or 1500 metres.

Salinity, nitrate, alkalinity and total CO₂ samples were taken from the seawaterloop at stations 1-8. All other stations were missed due to adverse weather conditions. The thermosalinograph was shut down at station 8 for the same reason. The surface temperature recorder was run continuously.

Mechanical BT or XBT's were taken at all Line P and BT stations.

At station P the oceanographic program was carried out as follows:

I. Physical Oceanography

- 1) Profiles of salinity, temperature and oxygen were obtained from 5 hydrographic stations to near bottom (4200 metres).
- 2) 18 STP profiles to 1500 metres and 4 to 300 metres were obtained.
- 3) BT's were taken every three hours to coincide with meteorological observations, encoded and transmitted according to the IGOSS format.
- 4) Salinity samples daily at 0000 hrs GMT from the seawater loop.

Marine Geochemistry

- 1) Samples for nutrients, tritium, alkalinity and total CO₂ were obtained from 6 depths to 500 metres. Nutrient, phosphate and salinity samples were also collected daily at 0000 hrs GMT and once every hour for a 24 hour period from the seawater loop.
- 2) Alkalinity and total CO₂ samples every 3 days from the seawater loop.
- 3) Air CO₂ samples weekly in duplicate.
- 4) 5 seawater C-14 samples were extracted from the seawater loop.
- 5) 3 surface tarball tows were made at a speed of 4 knots. The duration of each tow was approximately 15 minutes.
- 6) The PCO₂ system was operated whenever the seawaterloop was operational.

III. Biological and Productivity

Samples were obtained as follows:

- 1) 12 - 150 metre vertical plankton hauls.
 - 2 - 1200 metre vertical plankton hauls
 - 6 - Surface plankton tows for 10 minutes at sundown.
 - 11 - Micro and nano organism samples filtered from the seawater loop
- 2) Samples for plant pigment, nitrate and C_{14} productivity were obtained from 2 stations to 200 metres.
- 3) Approximately 39 salmon were caught.

En route from Station P only Line P stations 6, 3, 2 and 1 were occupied and a STP profile made to near bottom or 1500 metres. Salinity, nitrate and nutrient samples were taken at all Line P stations with a bucket.

Alkalinity and total CO_2 samples were taken at station 12, 6, 3 and 2 from the seawater loop.

All other stations were missed due to adverse weather conditions. The thermosalinograph was run only when the seawater loop was operational. The surface temperature recorder was run continuously.

With the exception of station 10 and $9\frac{1}{2}$, mechanical or XBT's were taken at all other Line P or BT stations.

PROGRAM OF OBSERVATIONS FROM CCGS QUADRA, 6 December, 1974 - 15 January 1975 (P-74-10) (CODC Ref. No. 15-74-010)

Oceanographic observations were made by the ship's officers.

Enroute to and from Station P, mechanical BT's were taken only when weather permitted. The temperature recorder was run continuously. The thermosalinograph was inoperative.

At station P the oceanographic program was carried out as follows:

I. Physical Oceanography

- 1) Mechanical BT's were taken only when weather permitted every 3 hours to coincide with meteorological observations.
- 2) Salinity samples daily at 0000 hrs GMT from the seawater loop.

II. Observations for Other Agencies

1. Marine mammal observations were made by the ship's officers for Mr. I. McAskie, Fisheries Research Board of Canada, the Biological Station, Nanaimo, B.C., Canada.
2. Bird observations were made by the ship's officers for Dr. M. Myres, University of Alberta, Calgary, Alberta, Canada.

Data was processed for publication by Messrs. C. de Jong, B. Minkley and E. Luscombe.

OBSERVATIONAL PROCEDURES

Temperatures at depth were measured by deep-sea-reversing thermometers of German (Richter and Wiese) or Japanese (Yoshino Keiki Co.) manufacture. Two protected thermometers were used on all Nansen bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be $\pm 0.02^{\circ}\text{C}$.

Surface water temperatures were measured from a bucket sample using a deck thermometer of $\pm 0.1^{\circ}\text{C}$ accuracy.

Salinity determinations were made aboard ship with either an Autolab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ppt.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and $\pm 0.5\%$ of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Electronic 15 Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be $\pm 0.1^{\circ}\text{C}$.

Each ship is equipped with a Plessey Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder are situated in the dry lab. The accuracy of this instrument is believed to be $\pm 0.1^{\circ}\text{C}$ for temperature and ± 0.1 ppt for salinity.

STP profiles were taken with a Guildline Model 8101 STP system.

COMPUTATIONS

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity, and dissolved oxygen vs \log_{10} depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas

interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm ²
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

REFERENCES

- Carpenter, J.H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. *Limnol. and Oceanogr.*, 10: 141-143.
- Collins, C.A., R.L. Tripe, D.A. Healey and J. Joergensen, 1969. The time distribution of serial oceanographic data from the Ocean Station P programme. *Fish.Res. Bd. Can. Tech. Rept. No. 106.*
- Reiniger, R.F., and C.K. Ross, 1968. A method of interpolation with application to oceanographic data. *Deep-Sea Res.*, 15: 185-193.
- U.S.N. Hydrographic Office, 1955. Instruction Manual for oceanographic observations, Publ. No. 607.

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- Figure 6 Temperature difference between hydro data and STP. P-74-9.

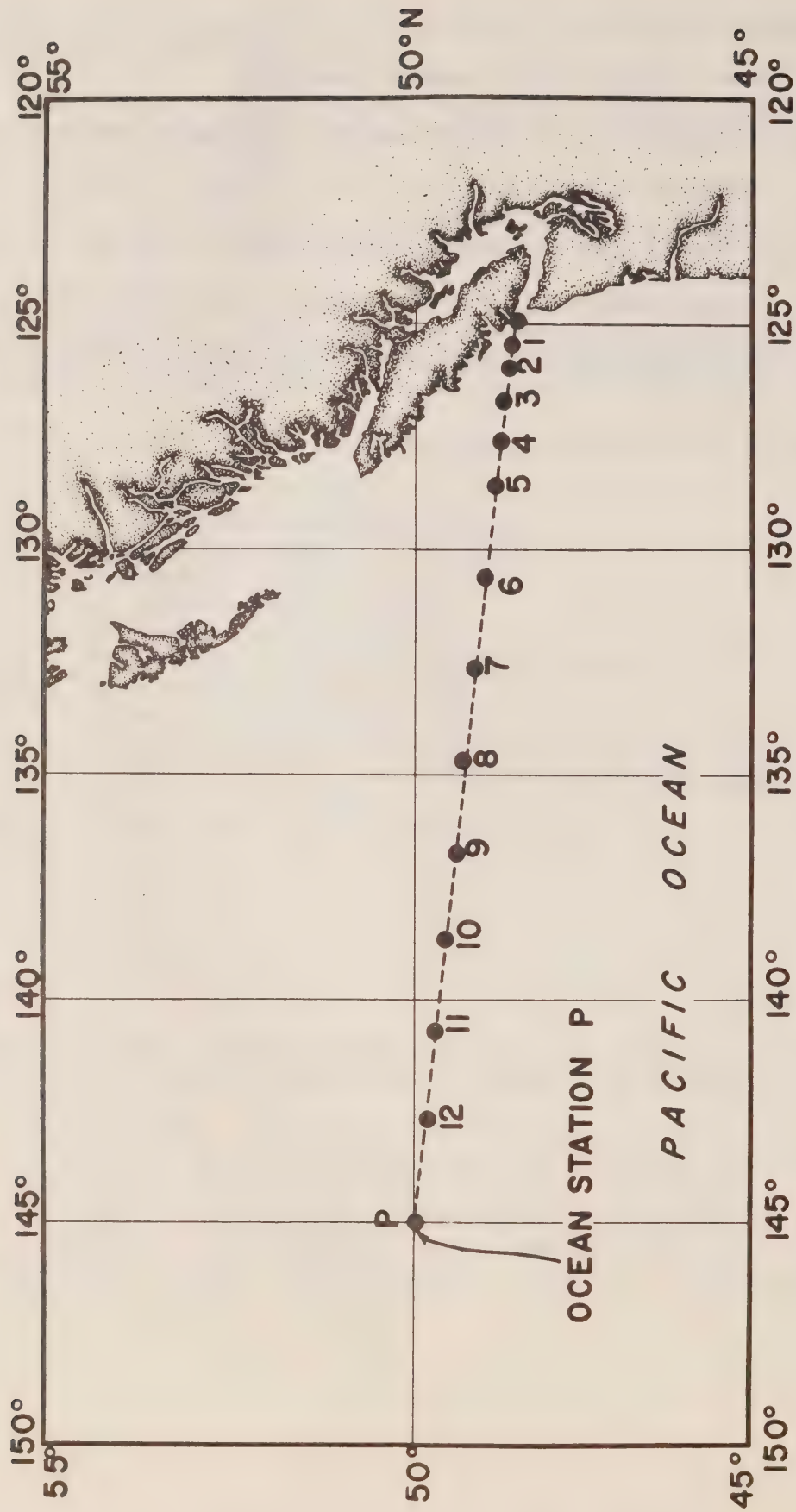


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-74-9

(CODC REFERENCE NO. 15-74-009)

RESULTS OF HYDROGRAPHIC OBSERVATIONS
(P-74-9)

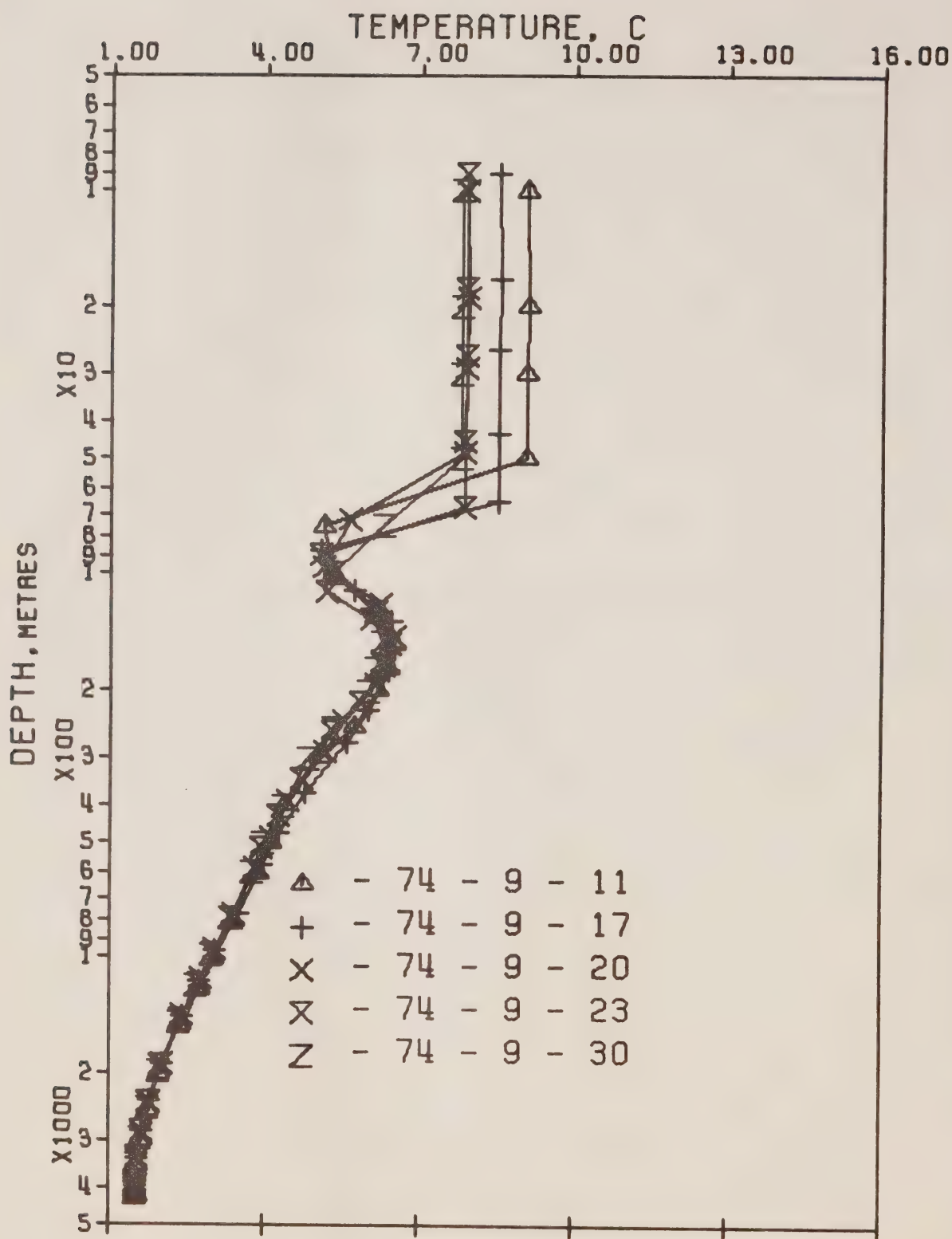


Figure 2

Composite plot of temperature vs \log_{10} depth. P-74-9.

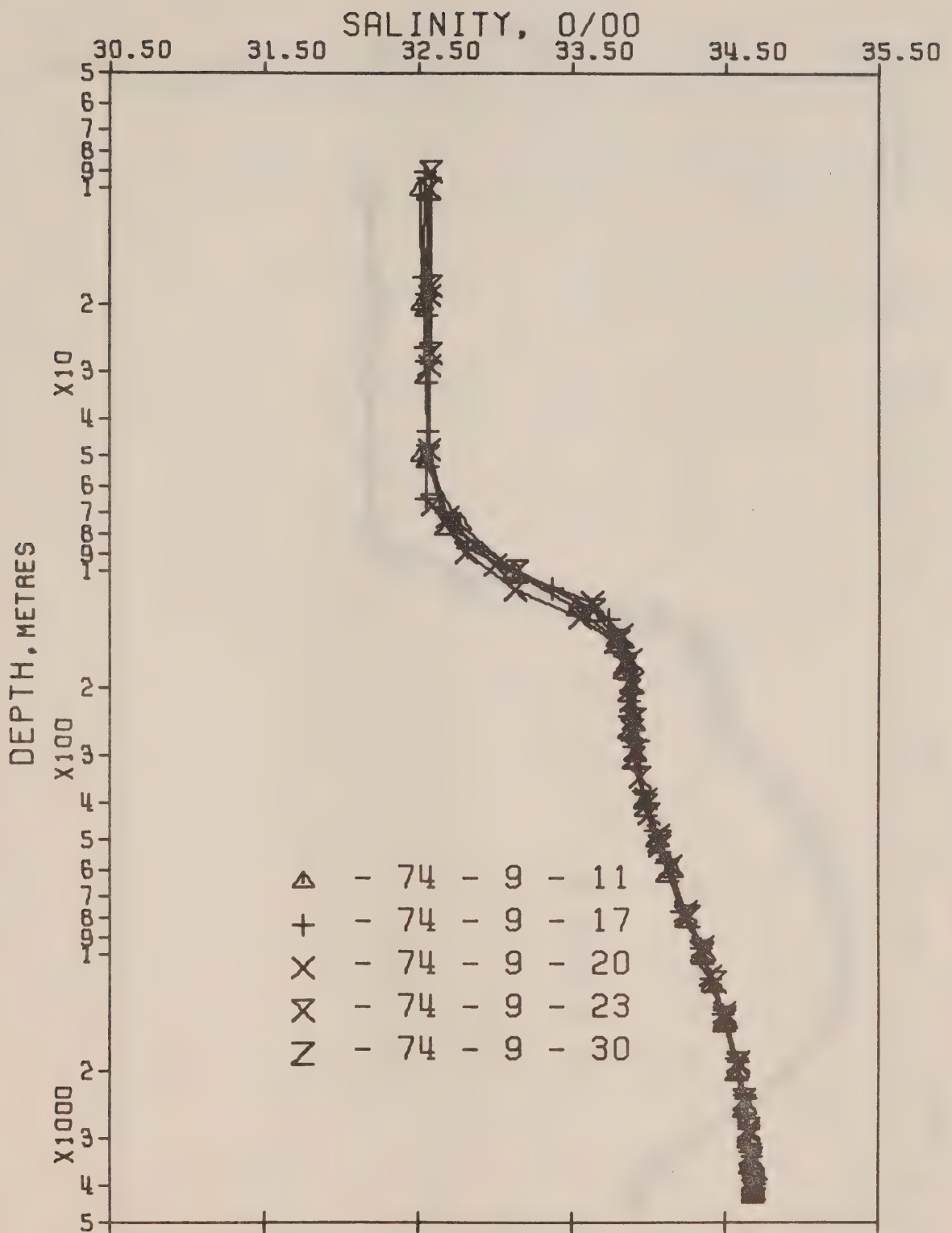


Figure 3 Composite plot of salinity vs \log_{10} depth. P-74-9.

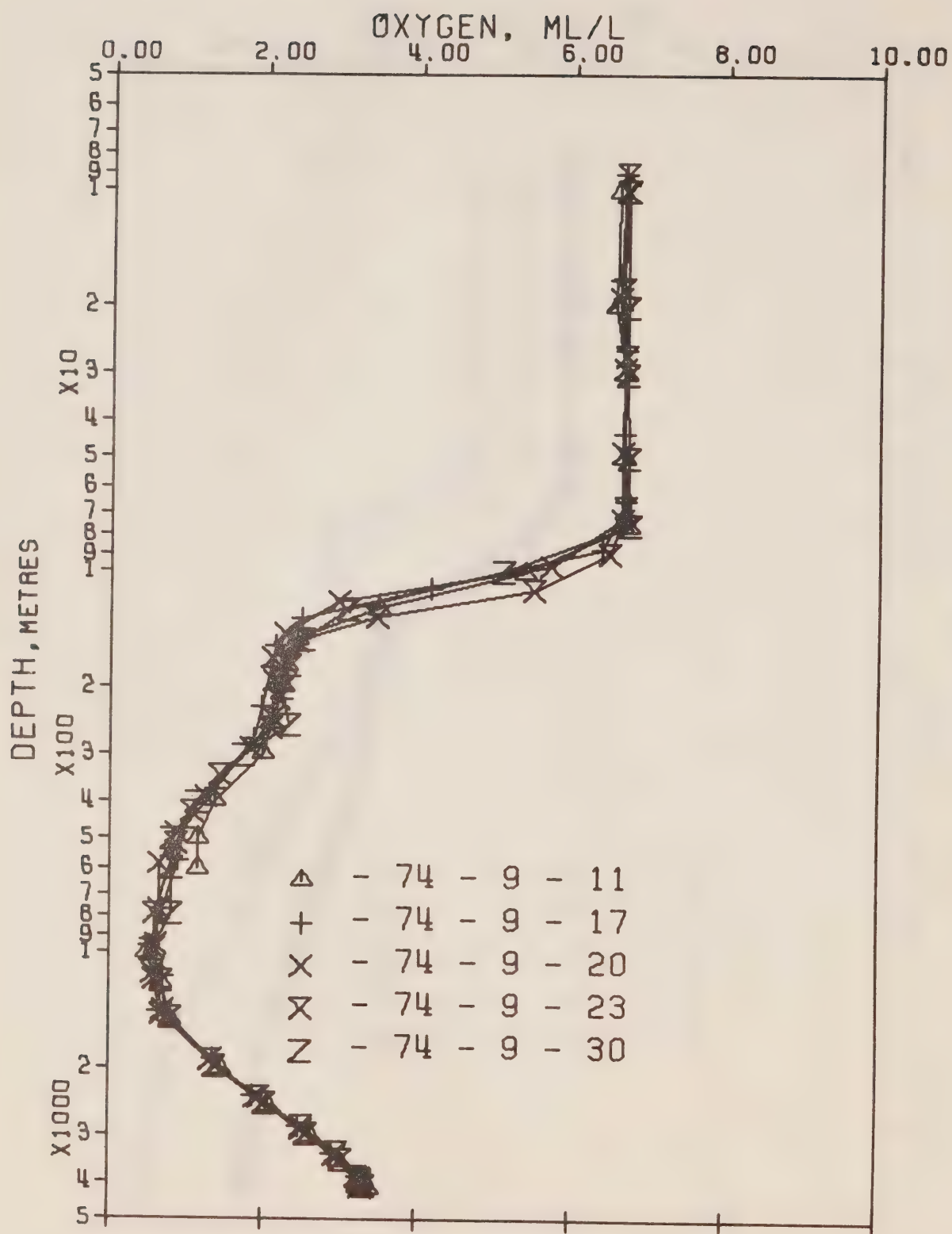
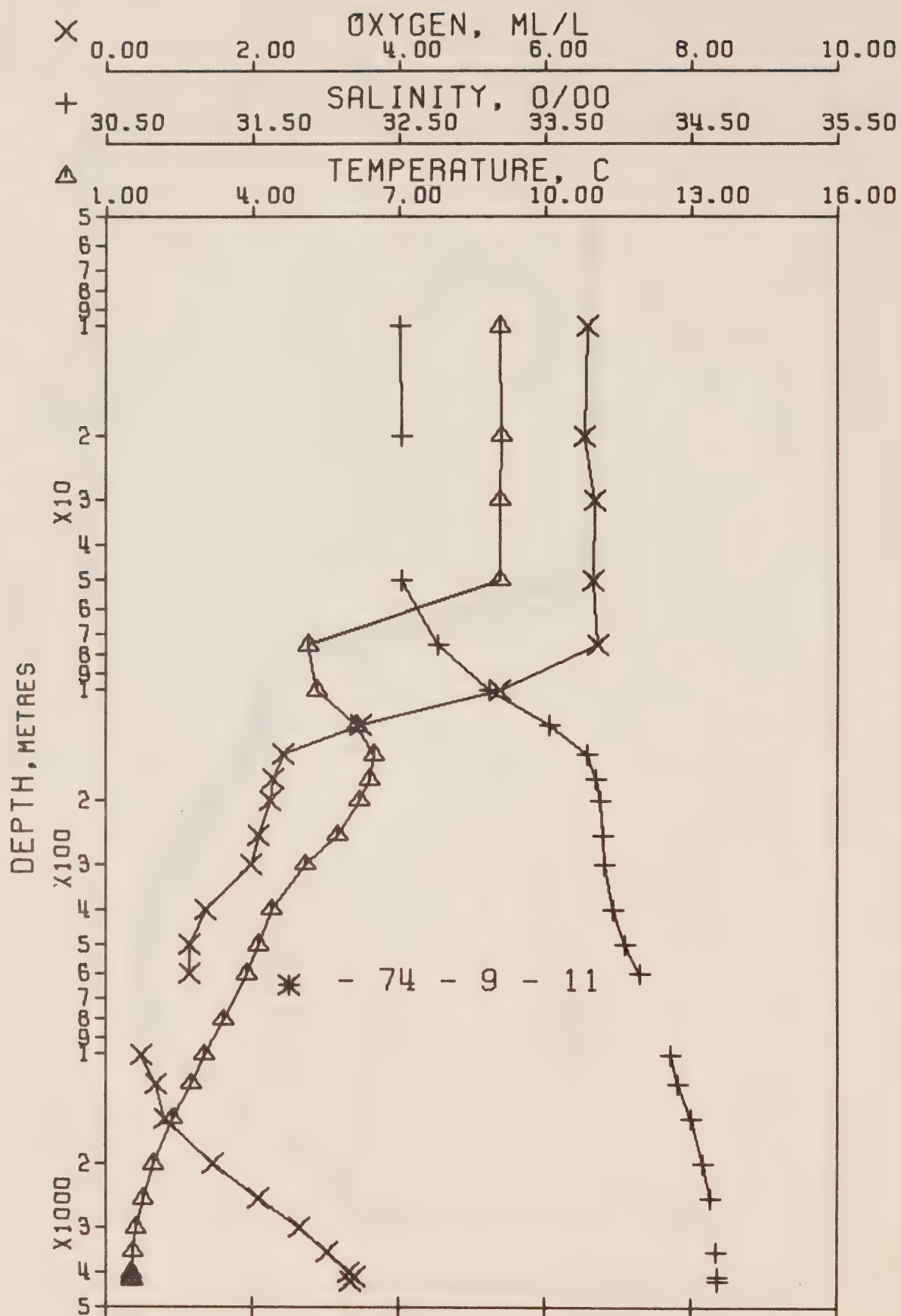


Figure 4

Composite plot of oxygen vs \log_{10} depth. P-74-9.



DATE 12/11/74

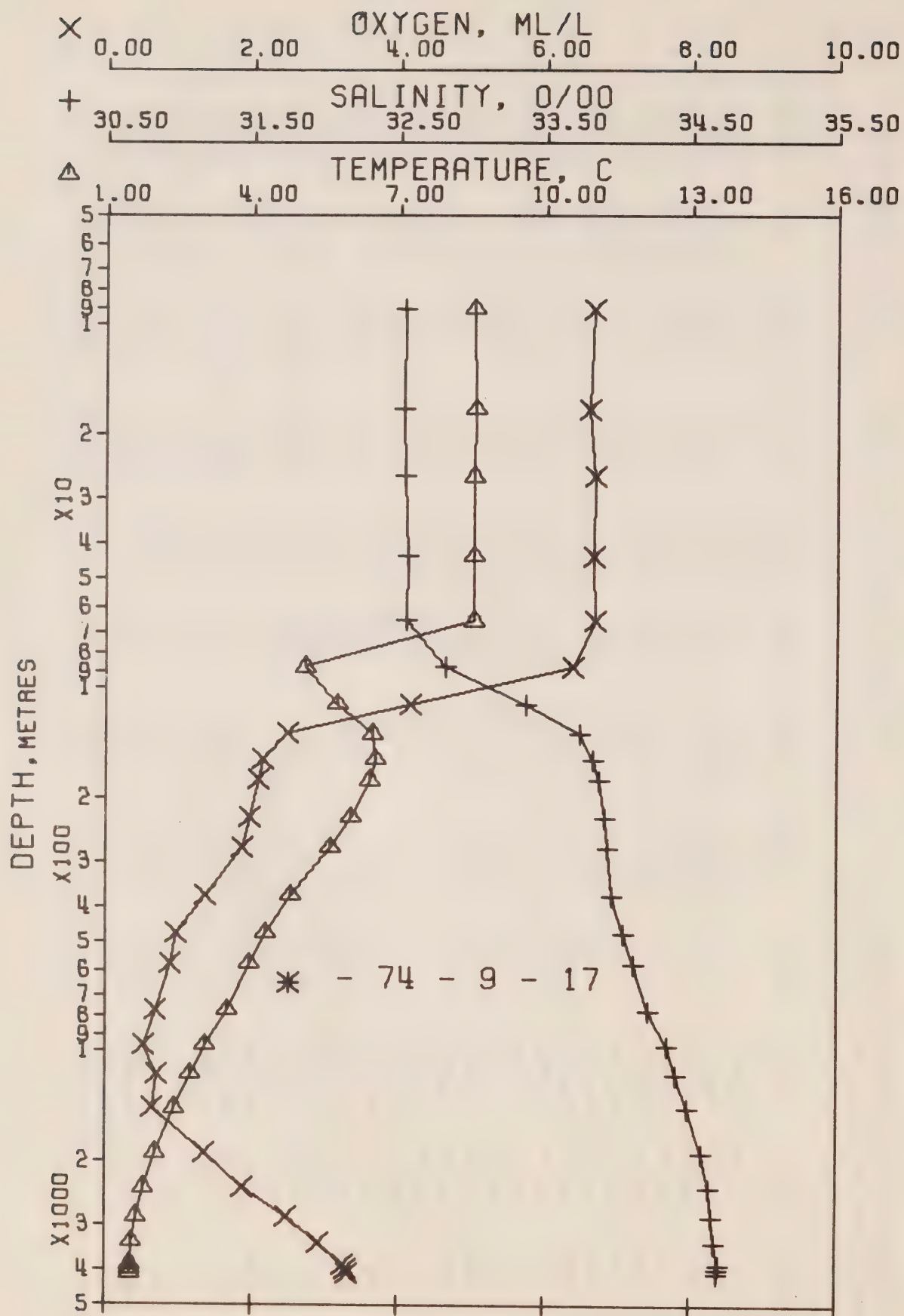
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OFFSHORE OCEANOGRAPHY GROUP

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.0

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	9.09	32.499	0	25.172	280.6	9.09	280.4	0.0	0.0	0.0	1484.
10	9.08	32.515	10	25.186	279.4	9.08	279.0	0.28	0.01	6.59	1484.
20	9.09	32.518	20	25.187	279.5	9.09	279.9	0.56	0.06	6.55	1484.
30	9.08	32.500*	30	25.175	280.8	9.08	280.1	0.84	0.13	6.67	1484.
50	9.08	32.517	50	25.188	279.9	9.07	278.7	1.42	0.37	6.66	1485.
75	5.15	32.770	75	25.918	210.4	5.14	209.4	2.04	0.76	6.73	1470.
101	5.33	33.116	100	26.170	186.7	5.32	185.4	2.53	1.20	5.38	1471.
126	6.13	33.531	125	26.401	165.3	6.12	163.4	2.97	1.71	3.48	1476.
151	6.48	33.794	150	26.563	150.4	6.47	148.0	3.37	2.27	2.42	1478.
176	6.39	33.854	175	26.622	145.2	6.37	142.4	3.74	2.89	2.28	1478.
201	6.20	33.878	200	26.666	141.3	6.18	138.2	4.10	3.58	2.23	1478.
252	5.74	33.898	250	26.739	134.7	5.72	131.2	4.79	5.19	2.09	1477.
302	5.08	33.915	300	26.831	126.2	5.06	122.5	5.45	7.05	1.98	1475.
403	4.39	33.968	400	26.950	115.5	4.35	111.2	6.66	11.41	1.35	1474.
505	4.12	34.051	501	27.044	107.2	4.08	102.2	7.80	16.66	1.15	1474.
607	3.98	34.150	602	27.147	98.0	3.84	92.3	8.84	22.59	1.14	1475.
814	3.40	34.281*	807	27.299	84.6	3.34	77.8	10.72	36.19	1.14	1477.
1016	3.02	34.357	1006	27.395	76.2	2.95	68.7	12.33	51.22	0.48	1478.
1217	2.73	34.415	1205	27.467	69.9	2.65	61.7	13.80	67.95	0.68	1481.
1523	2.35	34.503	1506	27.570	60.7	2.25	51.9	15.79	95.64	0.80	1484.
2034	1.96	34.584	2009	27.666	52.3	1.82	42.6	18.63	147.29	1.45	1491.
2547	1.74	34.629	2513	27.719	48.2	1.56	37.3	21.19	207.11	2.09	1499.
3064	1.60	34.653*	3019	27.749	46.2	1.37	34.3	23.62	276.51	2.65	1507.
3579	1.53	34.667	3523	27.765	45.7	1.25	32.4	25.98	356.52	3.03	1516.
4093	1.52	34.683*	4024	27.779	45.7	1.19	30.6	28.32	448.05	3.32	1524.
4196	1.52	34.685	4124	27.780	45.9	1.17	30.5	28.79	467.90	3.40	1526.
4288	1.52	34.684*	4214	27.780	46.2	1.16	30.5	29.22	486.26	3.34	1528.
4299	1.53	34.684	4224	27.779	46.3	1.17	30.6	29.26	488.34	3.34	1528.



DATE 19/11/74

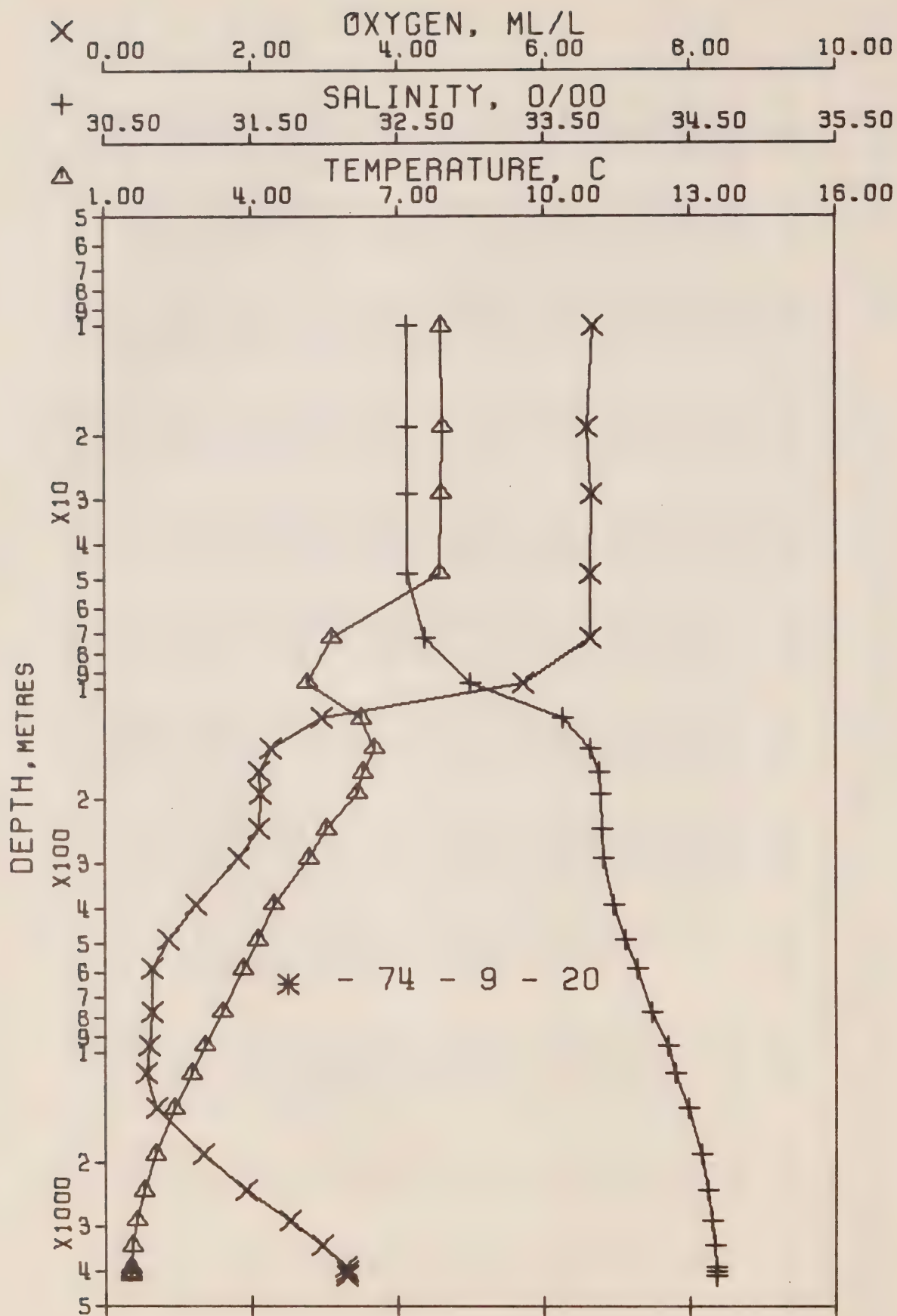
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OFFSHORE OCEANOGRAPHY GROUP

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.5

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	8.57	32.531	0	25.277	270.5	8.57	270.3	0.0	0.0	6.65	1482.
9	8.53	32.537	9	25.288	269.7	8.53	269.3	0.24	0.01	6.66	1482.
17	8.55	32.535	17	25.283	270.2	8.55	269.7	0.46	0.04	6.60	1482.
26	8.54	32.536	26	25.286	270.2	8.54	269.5	0.71	0.09	6.68	1482.
43	8.54	32.562	43	25.306	268.5	8.54	267.6	1.17	0.26	6.66	1483.
65	8.52	32.546	65	25.296	269.7	8.51	268.4	1.77	0.59	6.68	1483.
88	5.07	32.824	87	25.969	205.6	5.06	204.5	2.30	1.00	6.39	1470.
111	5.73	33.371	110	26.324	172.3	5.72	170.7	2.73	1.44	4.15	1474.
134	6.47	33.739	133	26.521	154.2	6.46	152.0	3.11	1.91	2.49	1477.
157	6.51	33.833	156	26.590	148.0	6.50	145.4	3.46	2.42	2.13	1478.
180	6.41	33.868	179	26.631	144.4	6.39	141.5	3.79	3.01	2.08	1478.
228	6.00	33.909	226	26.715	136.8	5.98	133.5	4.46	4.39	1.96	1477.
276	5.59	33.928	274	26.781	130.9	5.57	127.2	5.11	6.05	1.86	1476.
374	4.77	33.963	371	26.904	119.8	4.74	115.5	6.33	10.11	1.36	1475.
475	4.28	34.036	471	27.015	109.8	4.24	104.9	7.49	15.11	0.96	1474.
577	3.93	34.111	572	27.111	101.2	3.89	95.8	8.56	20.87	0.88	1475.
777	3.50	34.211	770	27.234	90.7	3.44	84.0	10.48	34.10	0.69	1476.
970	3.03	34.336	961	27.377	77.5	2.96	70.4	12.10	48.50	0.52	1478.
1163	2.74	34.397	1151	27.452	71.0	2.66	63.3	13.52	63.96	0.70	1480.
1440	2.42	34.485	1433	27.550	62.5	2.32	53.9	15.42	89.27	0.64	1483.
1925	2.02	34.583	1902	27.661	52.7	1.89	43.1	18.13	135.88	1.36	1490.
2407	1.79	34.631	2375	27.717	48.2	1.62	37.6	20.54	189.04	1.88	1497.
2899	1.63	34.652	2858	27.746	46.2	1.42	34.6	22.85	251.65	2.49	1504.
3410	1.55	34.671	3358	27.767	45.2	1.29	32.3	25.18	326.66	2.92	1513.
3945	1.52	34.696	3880	27.789	44.5	1.20	29.8	27.57	415.96	3.25	1522.
4056	1.52	34.694	3988	27.787	44.8	1.19	29.9	28.06	436.14	3.30	1524.
4157	1.52	34.691*	4086	27.785	45.3	1.18	30.0	28.51	455.08		1525.
4168	1.52	34.691	4097	27.785	45.4	1.18	30.0	28.57	457.25	3.32	1526.

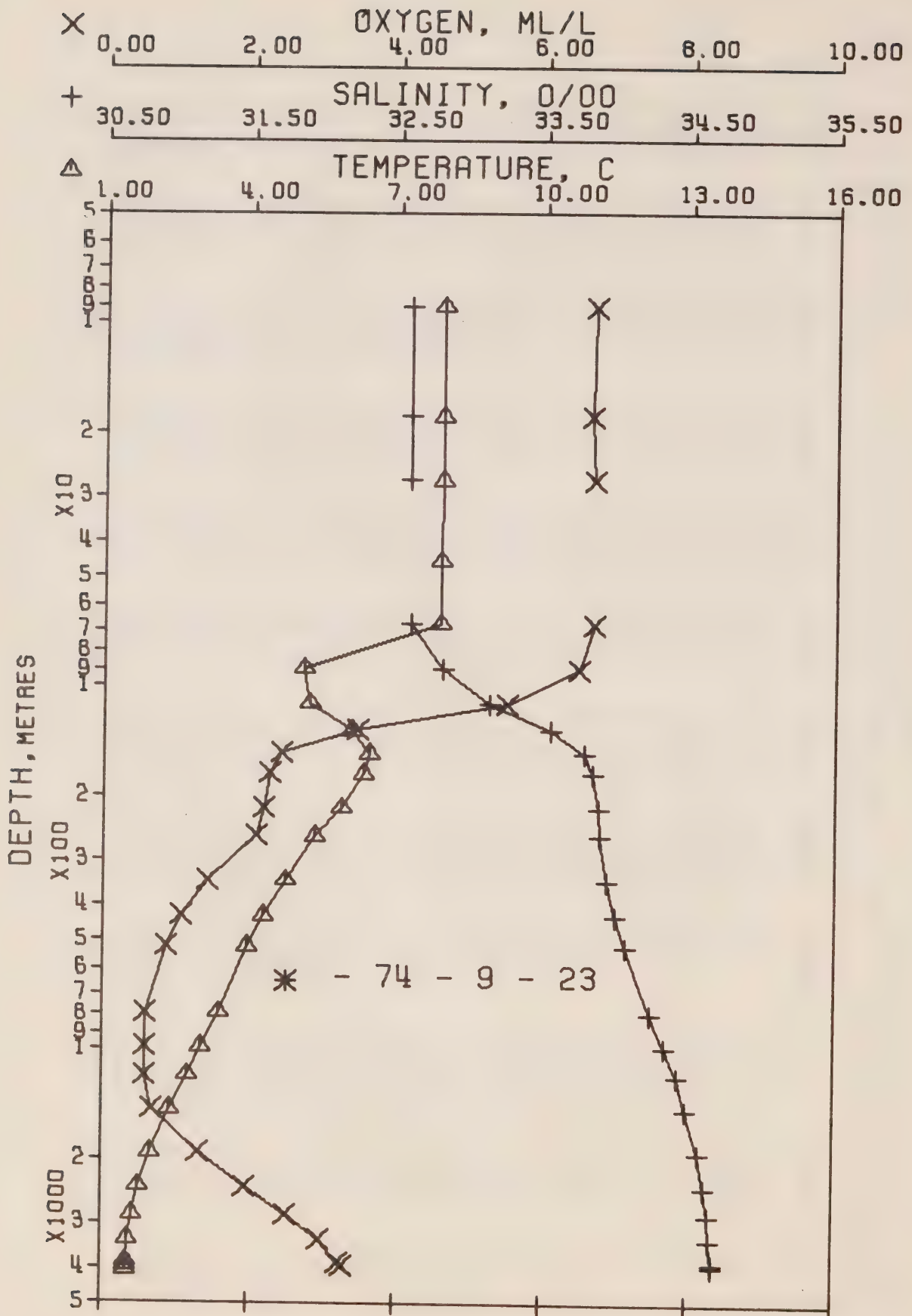


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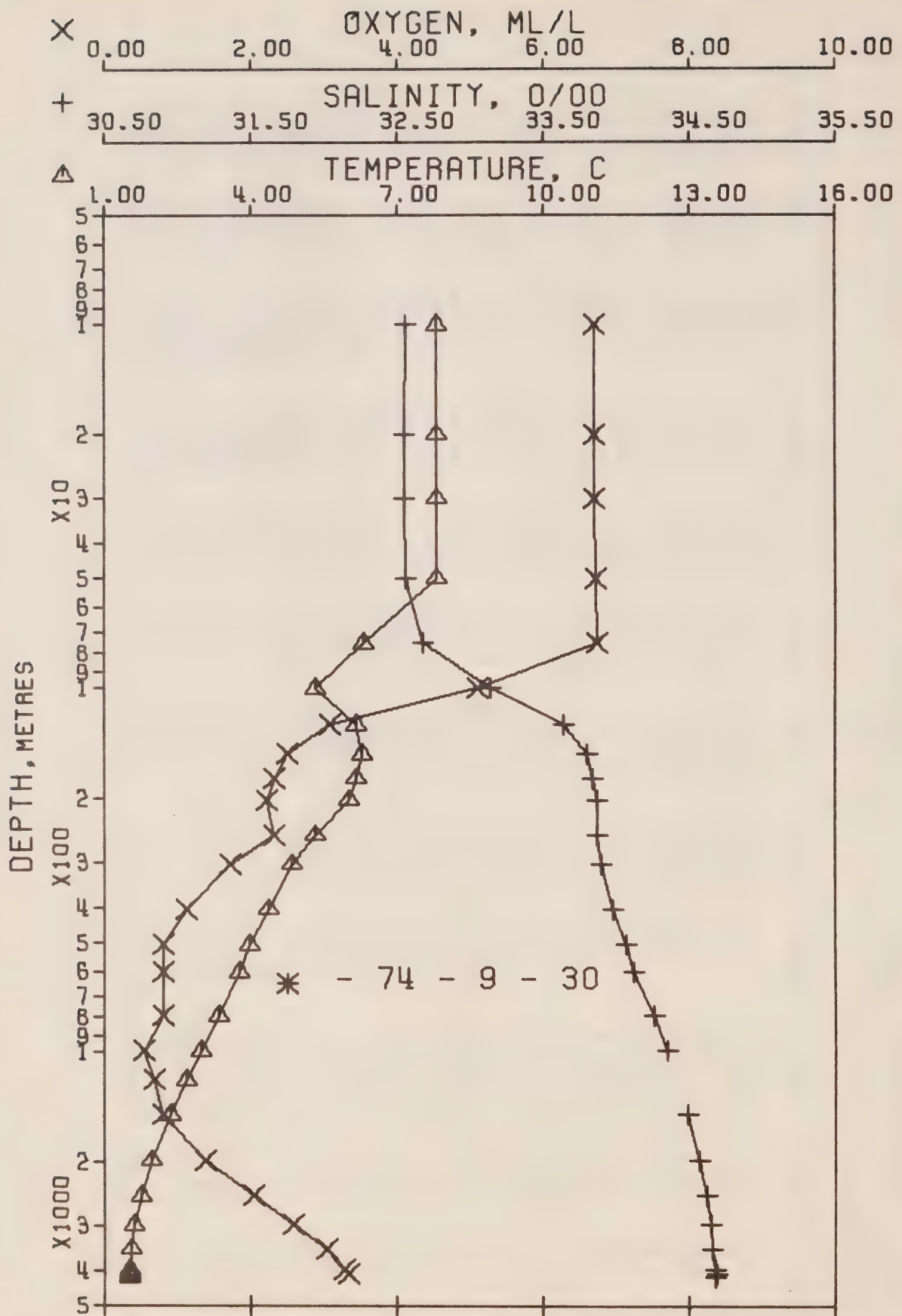
DATE 24/11/74

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.91	32.571	0	25.406	258.4	7.91	258.1	0.0	0.0	6.65	1479.
10	7.90	32.571	10	25.407	258.3	7.90	258.0	0.26	0.01	6.69	1480.
19	7.92	32.571	19	25.404	258.7	7.92	258.2	0.49	0.05	6.60	1480.
29	7.91	32.567	29	25.403	259.1	7.91	258.3	0.75	0.11	6.66	1480.
48	7.88	32.571	48	25.410	258.6	7.88	257.6	1.25	0.31	6.64	1480.
72	5.66	32.691	72	25.796	221.9	5.65	221.0	1.84	0.67	6.64	1472.
97	5.13	33.005	96	26.106	192.8	5.12	191.5	2.34	1.10	5.71	1470.
121	6.24	33.632	120	26.467	159.1	6.23	157.2	2.76	1.57	2.95	1476.
146	6.52	33.823	145	26.581	148.8	6.51	146.3	3.14	2.09	2.25	1478.
170	6.29	33.876	169	26.652	142.1	6.27	139.5	3.49	2.65	2.11	1478.
194	6.16	33.894	193	26.683	139.5	6.14	136.6	3.84	3.29	2.13	1477.
244	5.53	33.896	242	26.763	132.2	5.51	129.0	4.51	4.78	2.10	1476.
293	5.17	33.913	291	26.819	127.4	5.15	123.6	5.15	6.54	1.82	1475.
392	4.45	33.982	389	26.954	115.0	4.42	110.7	6.35	10.72	1.24	1474.
491	4.11	34.060	487	27.052	106.3	4.07	101.4	7.44	15.64	0.86	1474.
590	3.82	34.145	585	27.150	97.6	3.78	92.2	8.45	21.19	0.63	1475.
776	3.39	34.243	769	27.270	87.0	3.34	80.7	10.15	33.10	0.64	1476.
961	3.04	34.351	952	27.388	76.5	2.97	69.3	11.66	46.43	0.61	1478.
1150	2.78	34.396	1138	27.448	71.5	2.70	63.6	13.05	61.39	0.55	1480.
1437	2.42	34.492	1422	27.555	61.9	2.32	53.3	14.97	86.64	0.71	1483.
1930	2.01	34.579	1907	27.658	53.0	1.88	43.4	17.75	134.50	1.35	1490.
2433	1.78	34.623	2401	27.711	48.7	1.61	38.1	20.29	190.99	1.93	1497.
2945	1.62	34.655	2903	27.749	46.0	1.40	34.3	22.71	257.21	2.52	1505.
3463	1.55	34.675	3409	27.770	45.0	1.28	31.9	25.05	333.77	2.97	1514.
3981	1.52	34.682	3915	27.778	45.5	1.20	30.8	27.39	422.64	3.28	1522.
4085	1.52	34.685	4016	27.780	45.6	1.19	30.6	27.86	442.03	3.29	1524.
4178	1.52	34.681	4107	27.777	46.1	1.18	30.8	28.29	460.13	3.30	1526.
4189	1.52	34.684	4117	27.779	45.9	1.18	30.6	28.34	462.15		1526.



OFFSHORE OCEANOGRAPHY GROUP
POSITION 50-0.0 N, 145-0.0 W
GMT 21.3
HYDROGRAPHIC CAST DATA
REFERENCE NO. 74-9-23
DATE 29/11/74

[illegible]



DATE 4/12/74

REFERENCE NO. 74- 9- 30

OFFSHORE OCEANOGRAPHY GROUP

POSITION 50- 0.0 N, 145- 0.0 W GMT 20.8

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.84	32.557	0	25.405	258.4	7.84	258.1	0.0	0.0	6.66	1479.
10	7.81	32.556	10	25.408	258.2	7.81	257.9	0.26	0.01	6.70	1479.
20	7.82	32.554	20	25.405	258.6	7.82	258.1	0.52	0.05	6.70	1479.
30	7.81	32.554	30	25.407	258.6	7.81	258.0	0.78	0.12	6.70	1479.
50	7.81	32.563	50	25.414	258.3	7.81	257.2	1.30	0.34	6.71	1480.
75	6.32	32.678	75	25.705	230.8	6.31	229.6	1.93	0.73	6.74	1475.
101	5.32	33.142	100	26.192	184.6	5.31	183.3	2.45	1.20	5.11	1471.
127	6.15	33.638	126	26.483	157.6	6.14	155.7	2.89	1.71	3.08	1476.
152	6.27	33.799	151	26.594	147.4	6.26	145.0	3.27	2.26	2.50	1477.
177	6.15	33.845	176	26.646	142.8	6.13	140.1	3.64	2.87	2.32	1477.
203	6.02	33.870	202	26.682	139.7	6.00	136.7	4.01	3.59	2.21	1477.
254	5.32	33.870	252	26.768	131.9	5.30	128.5	4.69	5.18	2.33	1475.
305	4.83	33.902	303	26.849	124.4	4.81	120.7	5.35	7.06	1.72	1474.
407	4.35	33.983	404	26.966	114.0	4.32	109.6	6.56	11.46	1.11	1474.
509	3.98	34.071	505	27.075	104.2	3.94	99.3	7.67	16.63	0.79	1474.
608	3.76	34.116	603	27.132	99.3	3.72	93.7	8.67	22.36	0.80	1475.
803	3.33	34.261	796	27.290	85.2	3.27	78.8	10.47	35.29	0.80	1476.
1003	2.98	34.354	993	27.396	75.8	2.91	68.6	12.07	49.99	0.54	1478.
1203	2.67	34.422*	1191	27.478	68.6	2.59	60.7	13.52	66.22	0.69	1480.
1504	2.35	34.495	1488	27.564	61.2	2.25	52.5	15.46	93.05	0.79	1484.
2011	1.97	34.575	1987	27.658	53.1	1.83	43.4	18.33	144.44	1.38	1491.
2521	1.75	34.620	2487	27.711	48.9	1.57	38.1	20.90	204.02	2.03	1498.
3030	1.60	34.648	2986	27.745	46.4	1.38	34.6	23.32	272.36	2.59	1506.
3537	1.53	34.663	3482	27.762	45.8	1.26	32.7	25.65	350.52	3.04	1515.
4041	1.52	34.685	3973	27.780	45.5	1.19	30.6	27.95	439.23	3.28	1523.
4140	1.52	34.689	4070	27.783	45.4	1.18	30.2	28.40	458.07	3.34	1525.
4231	1.52	34.684*	4158	27.780	46.0	1.17	30.5	28.81	475.65		1527.
4241	1.52	34.684	4168	27.779	46.1	1.17	30.6	28.86	477.69		1527.

RESULTS OF STP OBSERVATIONS

(P-74-9)

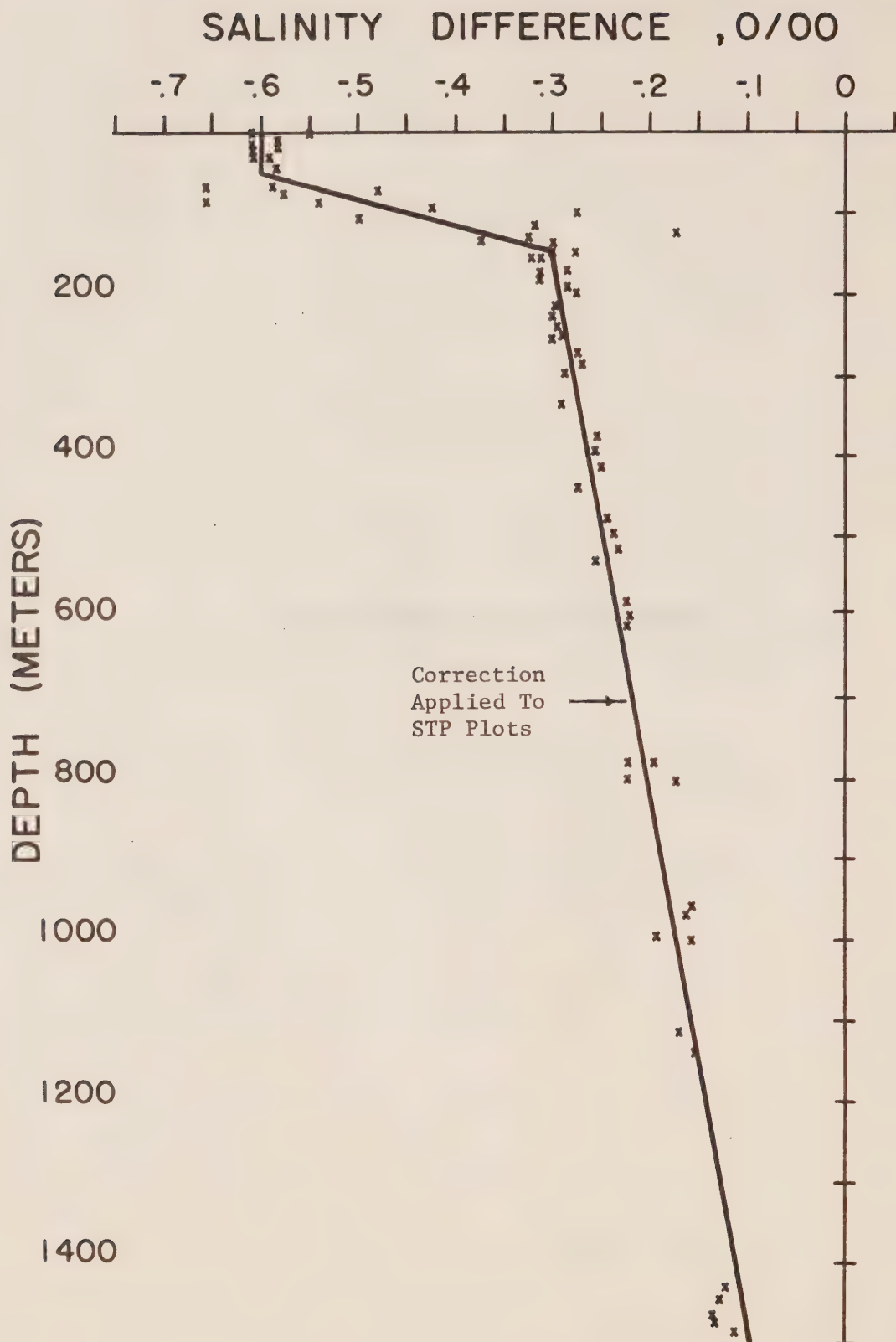


Figure 5 Salinity difference between hydro data and STP. P-74-9.

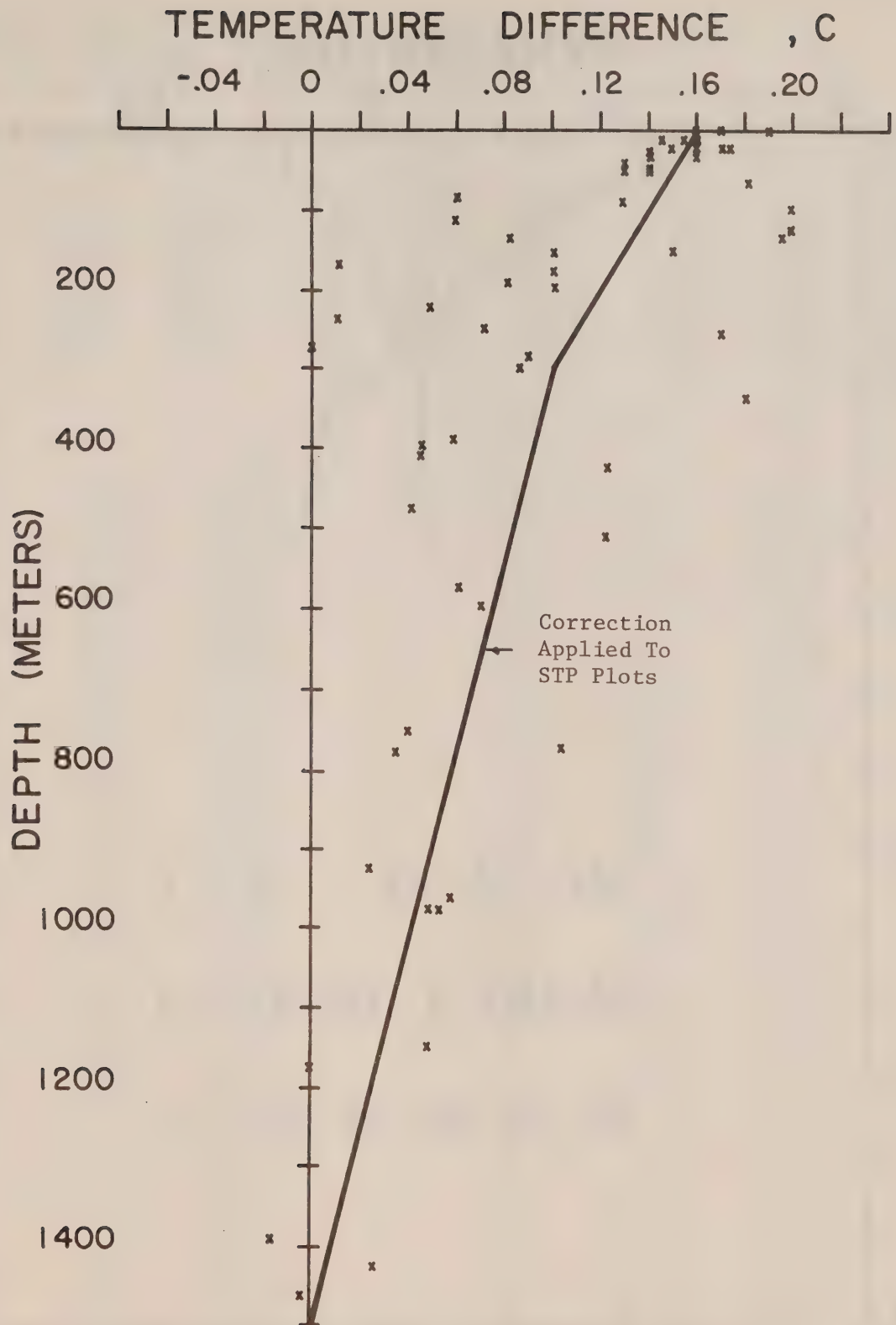
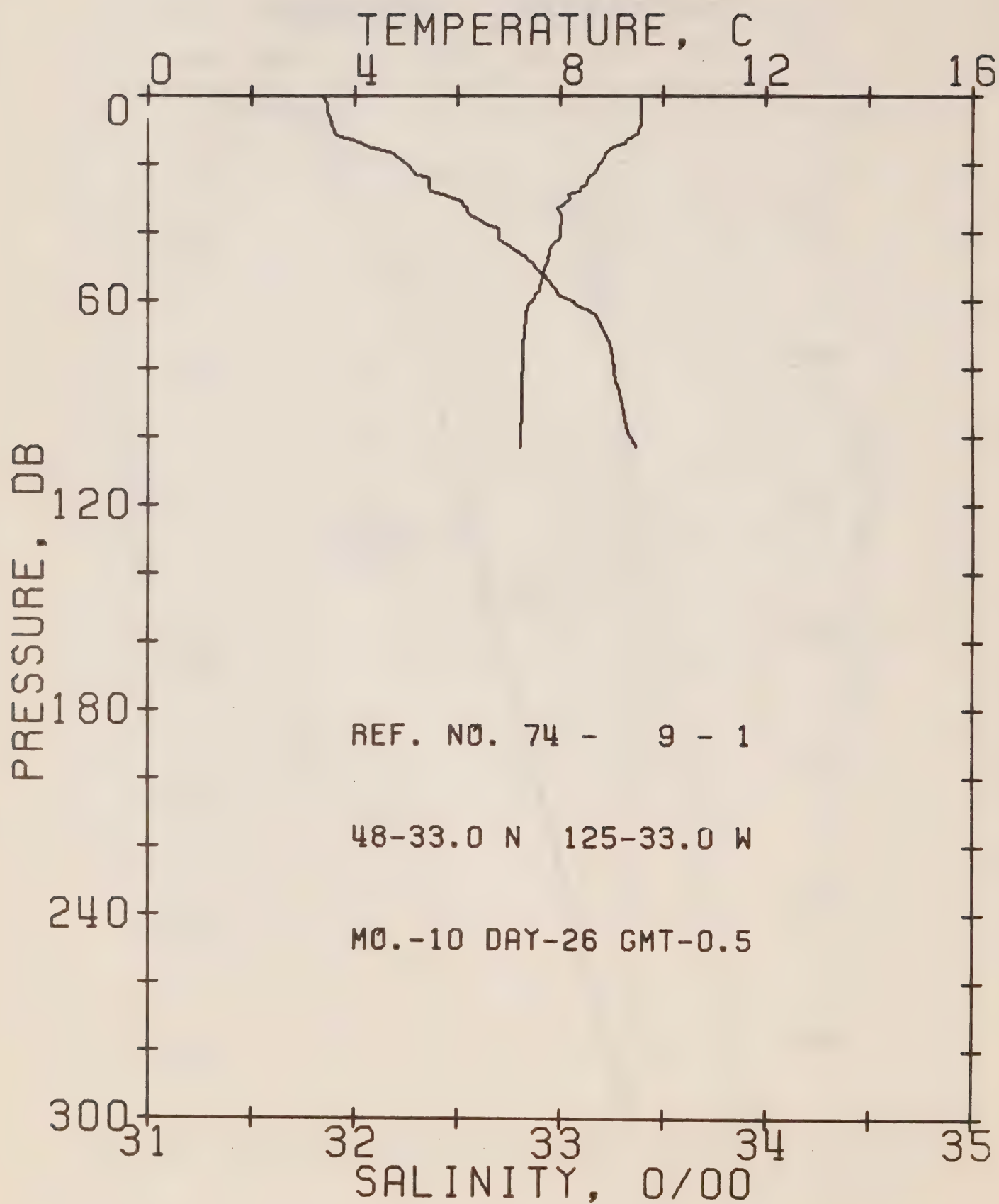


Figure 6 Temperature difference between hydro data and STP. P-74-9.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 74- 9- 1

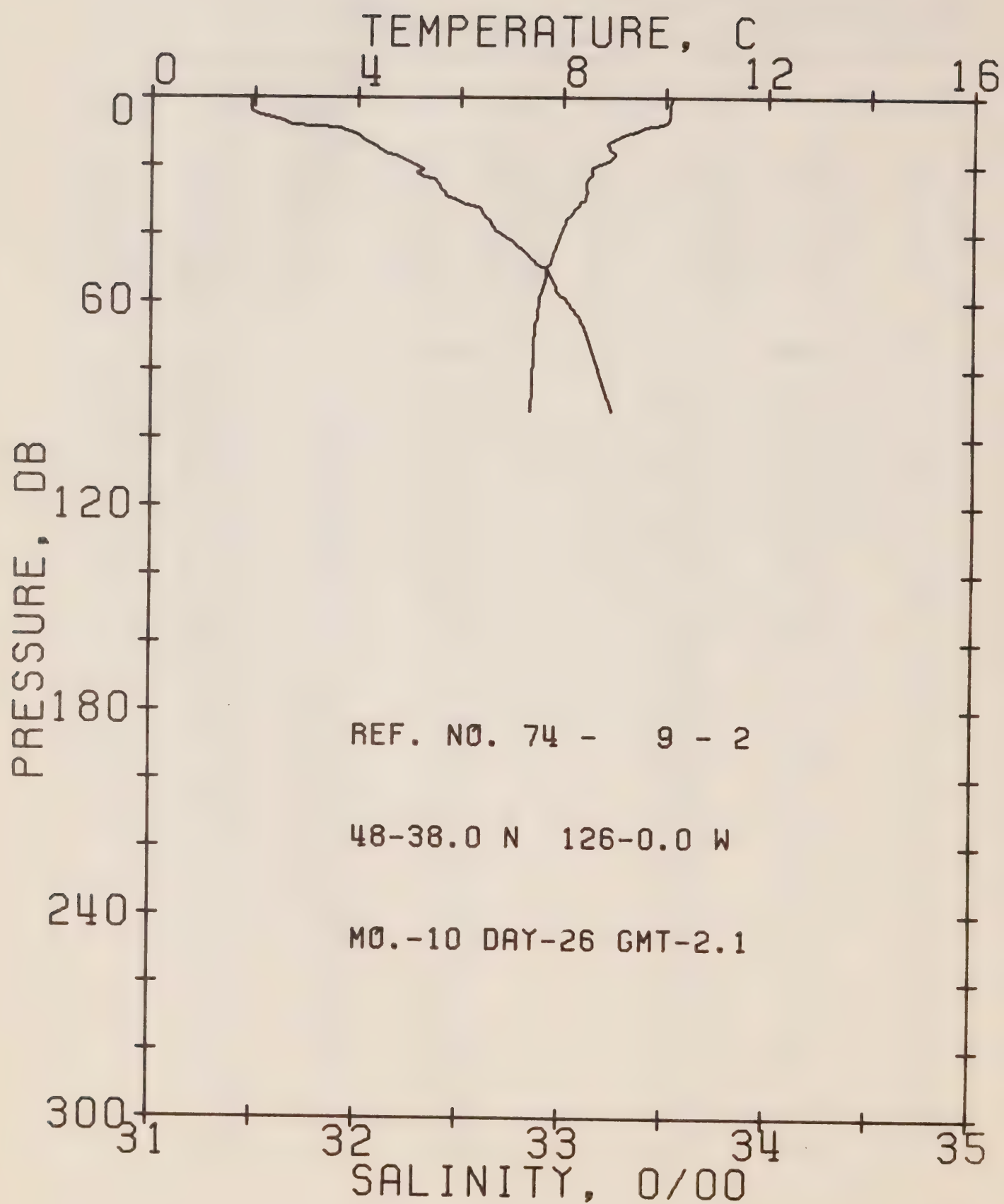
DATE 26/10/74

POSITION 48-33.0N, 125-33.0W GMT 0.5

RESULTS OF STP CAST 68 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.58	31.85	0	24.59	335.9	0.0	0.0	1485.
10	9.53	31.90	10	24.64	331.8	0.33	0.02	1485.
20	8.74	32.25	20	25.03	294.2	0.65	0.06	1482.
30	8.18	32.48	30	25.30	269.2	0.93	0.14	1481.
50	7.70	32.87	50	25.67	233.6	1.43	0.34	1480.
75	7.28	33.24	75	26.02	200.7	1.97	0.68	1479.
100	7.23	33.34	99	26.11	193.3	2.46	1.12	1479.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	9.58	31.85	38.	8.01	32.66
3.	9.57	31.87	39.	8.01	32.70
4.	9.57	31.87	40.	8.01	32.70
5.	9.57	31.87	41.	8.00	32.70
7.	9.57	31.88	42.	7.97	32.70
8.	9.56	31.89	43.	7.89	32.72
9.	9.54	31.89	44.	7.81	32.75
10.	9.53	31.90	45.	7.78	32.78
11.	9.51	31.90	46.	7.78	32.80
12.	9.42	31.93	47.	7.76	32.83
13.	9.32	31.99	48.	7.75	32.84
14.	9.25	32.04	49.	7.73	32.86
15.	9.04	32.06	51.	7.68	32.89
16.	8.93	32.14	52.	7.66	32.91
17.	8.88	32.19	53.	7.65	32.93
19.	8.82	32.23	54.	7.64	32.94
20.	8.74	32.25	56.	7.60	32.97
21.	8.72	32.27	57.	7.59	32.98
22.	8.69	32.28	58.	7.52	32.99
23.	8.64	32.29	59.	7.50	33.01
24.	8.53	32.36	60.	7.47	33.06
25.	8.52	32.36	61.	7.38	33.07
26.	8.50	32.36	62.	7.36	33.10
27.	8.41	32.36	63.	7.34	33.14
28.	8.36	32.37	64.	7.33	33.17
29.	8.17	32.43	69.	7.30	33.21
30.	8.18	32.48	73.	7.29	33.24
31.	8.14	32.52	77.	7.27	33.25
32.	8.05	32.53	84.	7.25	33.27
33.	7.96	32.55	85.	7.25	33.28
34.	8.00	32.55	93.	7.24	33.31
35.	8.02	32.56	99.	7.23	33.33
36.	8.02	32.60	102.	7.23	33.36
37.	8.02	32.62	103.	7.23	33.37



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REFERENCE NO. 74- 9- 2

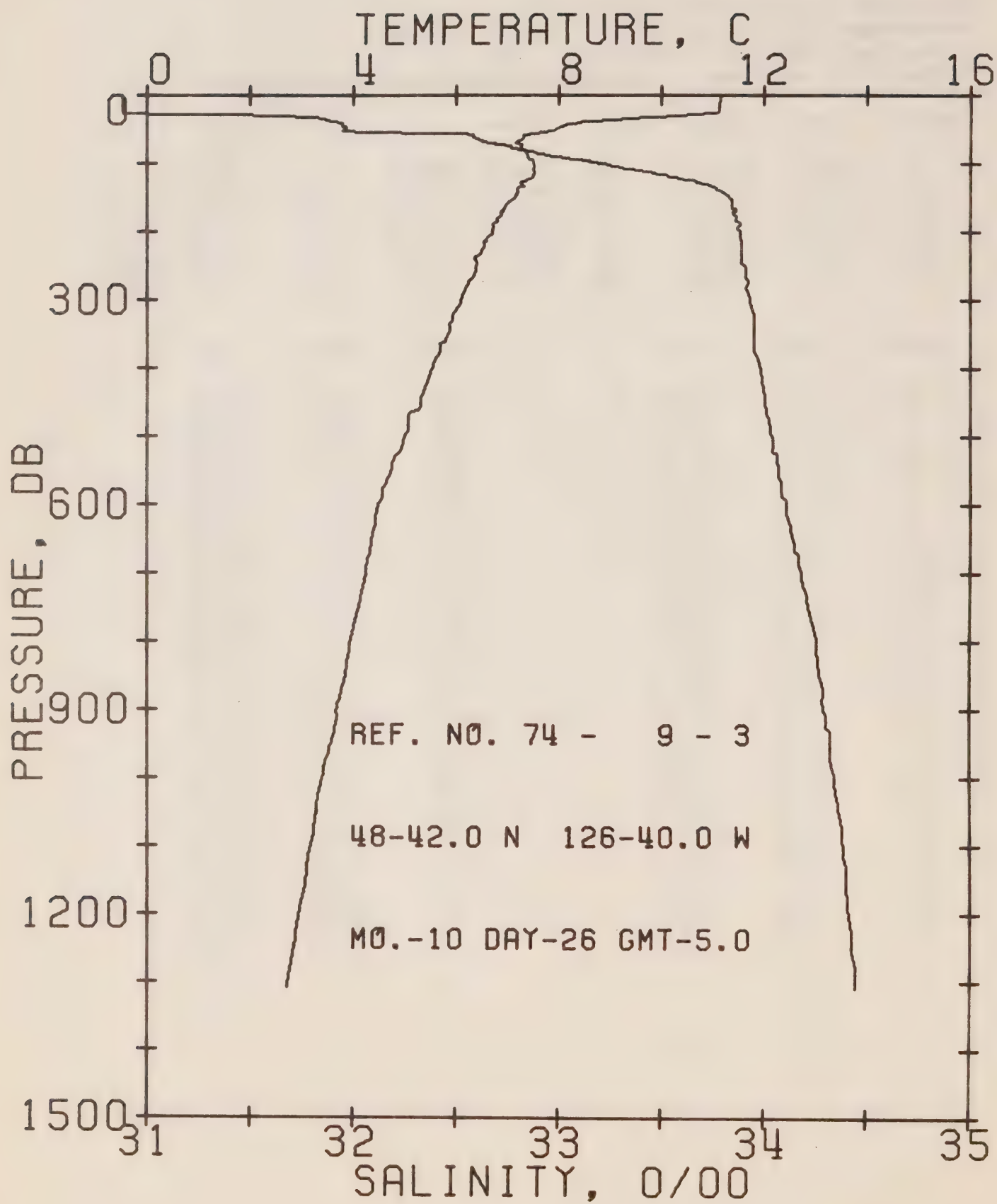
DATE 26/10/74

POSITION 48-38.0N, 126- 0.0W GMT 2.1

RESULTS OF STP CAST 50 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.10	31.48	0	24.22	371.4	0.0	0.0	1486.
10	9.40	31.96	10	24.70	325.4	0.36	0.02	1484.
20	8.64	32.29	20	25.08	289.8	0.67	0.06	1482.
30	8.42	32.49	30	25.27	271.9	0.95	0.14	1482.
50	7.69	32.92	50	25.71	230.1	1.45	0.34	1480.
75	7.43	33.15	75	25.92	210.1	2.00	0.69	1480.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.10	31.48	31.	8.35	32.51
4.	10.09	31.48	32.	8.29	32.59
5.	10.08	31.53	33.	8.23	32.60
6.	10.08	31.59	34.	8.20	32.61
7.	10.06	31.64	35.	8.13	32.62
8.	9.96	31.68	36.	8.06	32.64
9.	9.57	31.91	37.	8.06	32.65
10.	9.40	31.96	38.	8.03	32.66
11.	9.23	32.00	39.	8.01	32.67
12.	9.05	32.02	42.	7.92	32.75
13.	8.93	32.05	46.	7.80	32.83
14.	8.85	32.09	48.	7.78	32.86
16.	8.97	32.13	49.	7.76	32.87
17.	9.02	32.18	50.	7.69	32.92
19.	8.88	32.25	53.	7.68	32.94
20.	8.64	32.29	56.	7.62	32.97
21.	8.55	32.32	57.	7.59	32.97
22.	8.56	32.29	58.	7.56	32.99
23.	8.55	32.31	59.	7.55	33.01
24.	8.48	32.38	65.	7.51	33.09
25.	8.45	32.39	66.	7.49	33.09
27.	8.45	32.41	67.	7.47	33.10
28.	8.47	32.43	74.	7.43	33.14
29.	8.46	32.43	85.	7.41	33.20
30.	8.42	32.49	92.	7.38	33.24



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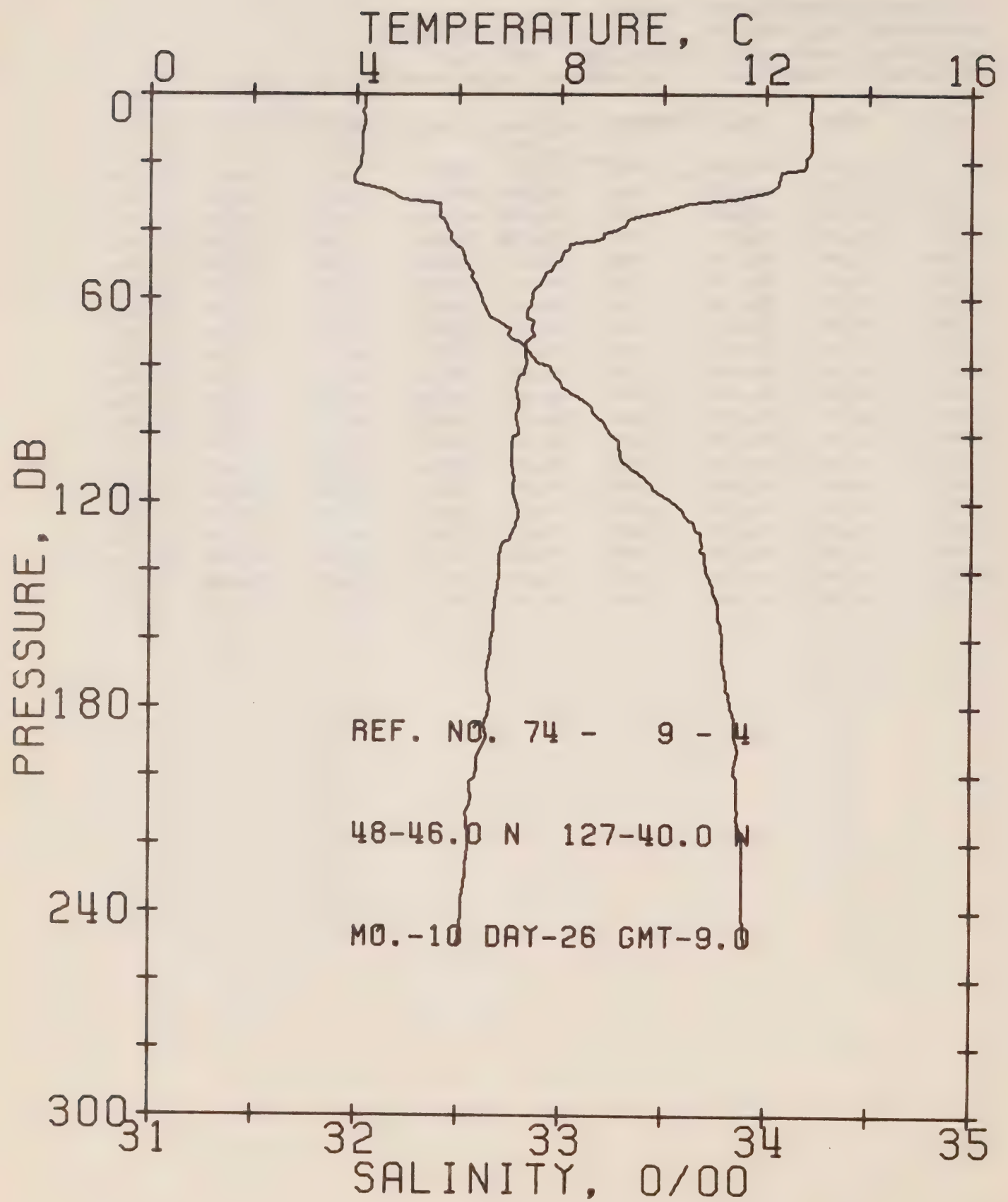
REFERENCE NO. 74- 9- 3

DATE 26/10/74

POSITION 48-42.0N, 126-40.0W GMT 5.0

RESULTS OF STP CAST 303 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.14	30.88	0	23.57	432.7	0.0	0.0	1489.
10	11.13	30.88	10	23.57	432.9	0.43	0.02	1489.
20	11.13	30.88	20	23.58	433.1	0.87	0.09	1490.
30	10.14	31.71	30	24.39	355.8	1.28	0.19	1487.
50	7.94	31.96	50	24.92	305.0	1.92	0.45	1480.
75	7.26	32.76	75	25.65	236.2	2.56	0.86	1478.
100	7.52	33.22	99	25.97	206.2	3.12	1.35	1480.
125	7.36	33.67	124	26.35	170.9	3.59	1.90	1481.
150	7.10	33.83	149	26.51	155.7	4.00	2.46	1480.
175	6.85	33.86	174	26.57	150.6	4.38	3.10	1480.
200	6.68	33.88	199	26.60	147.3	4.75	3.81	1480.
225	6.51	33.89	224	26.63	144.7	5.12	4.60	1479.
250	6.38	33.90	248	26.66	142.6	5.48	5.47	1479.
300	6.09	33.93	298	26.72	137.3	6.18	7.43	1479.
400	5.53	33.98	397	26.83	128.0	7.50	12.16	1478.
500	4.99	34.04	496	26.94	118.1	8.74	17.80	1478.
600	4.47	34.11	595	27.05	107.7	9.87	24.14	1477.
800	3.92	34.25	793	27.22	92.7	11.88	38.44	1479.
1000	3.39	34.34	991	27.35	81.4	13.63	54.44	1480.
1200	2.94	34.42	1188	27.45	72.1	15.16	71.56	1481.



OFFSHORE OCEANOGRAPHY GROUP

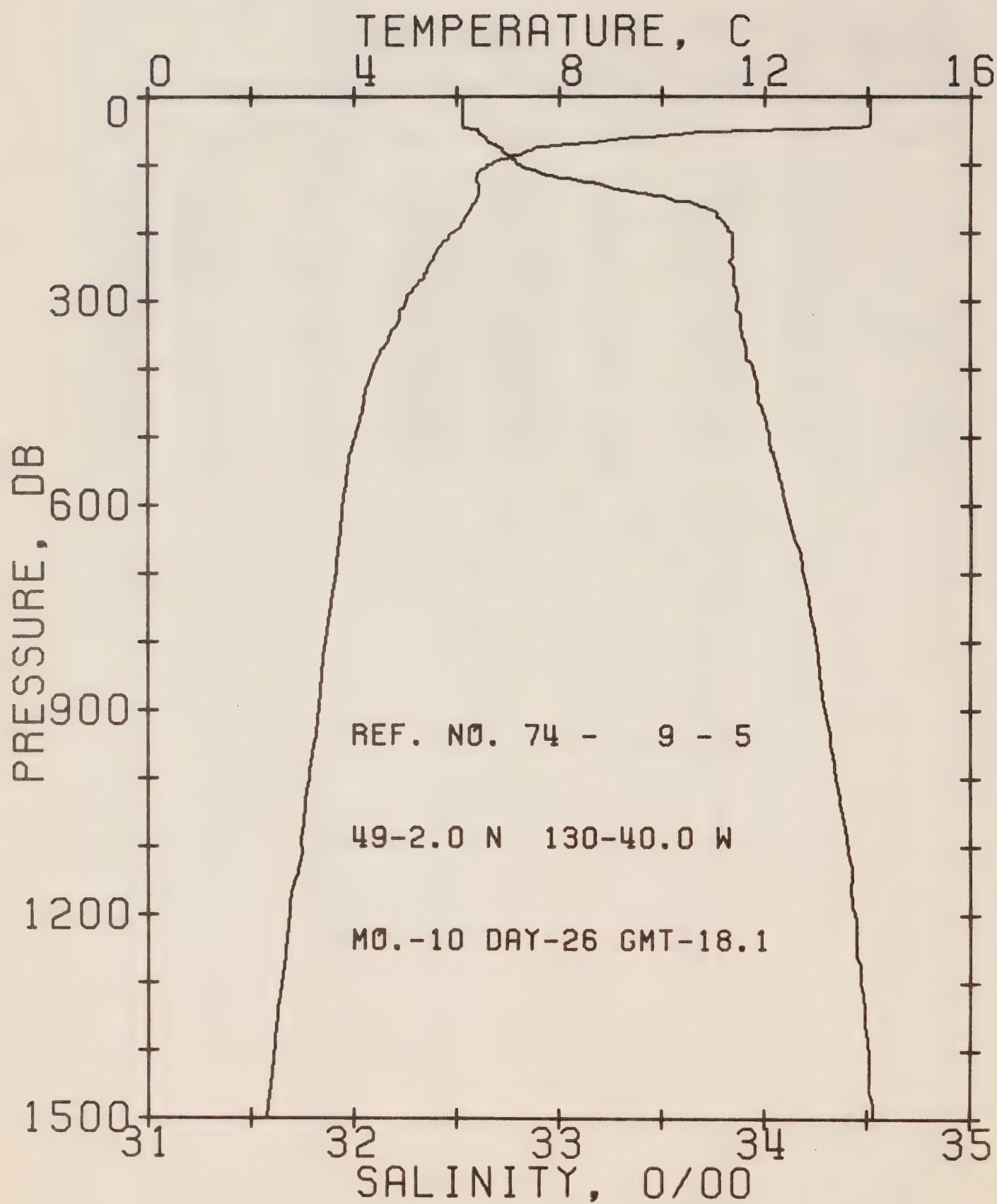
REFERENCE NO. 74- 9- 4

DATE 26/10/74

POSITION 48-46.0N, 127-40.0W GMT 9.0

RESULTS OF STP CAST 147 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.88	32.04	0	24.15	377.6	0.0	0.0	1497.
10	12.87	32.04	10	24.15	378.2	0.38	0.02	1497.
20	12.77	32.02	20	24.16	377.8	0.76	0.08	1497.
30	11.67	32.19	30	24.50	345.3	1.12	0.17	1493.
50	7.98	32.54	50	25.39	260.9	1.70	0.40	1480.
75	7.32	32.83	75	25.70	231.8	2.32	0.79	1479.
100	7.16	33.24	99	26.04	199.9	2.85	1.27	1479.
125	7.14	33.63	124	26.34	171.0	3.32	1.80	1480.
150	6.71	33.77	149	26.51	155.2	3.72	2.37	1479.
175	6.58	33.81	174	26.56	150.9	4.10	3.00	1479.
200	6.34	33.85	199	26.63	145.2	4.47	3.71	1478.
225	6.18	33.89	223	26.68	140.5	4.83	4.48	1478.
250	6.00	33.90	248	26.71	137.8	5.18	5.32	1478.



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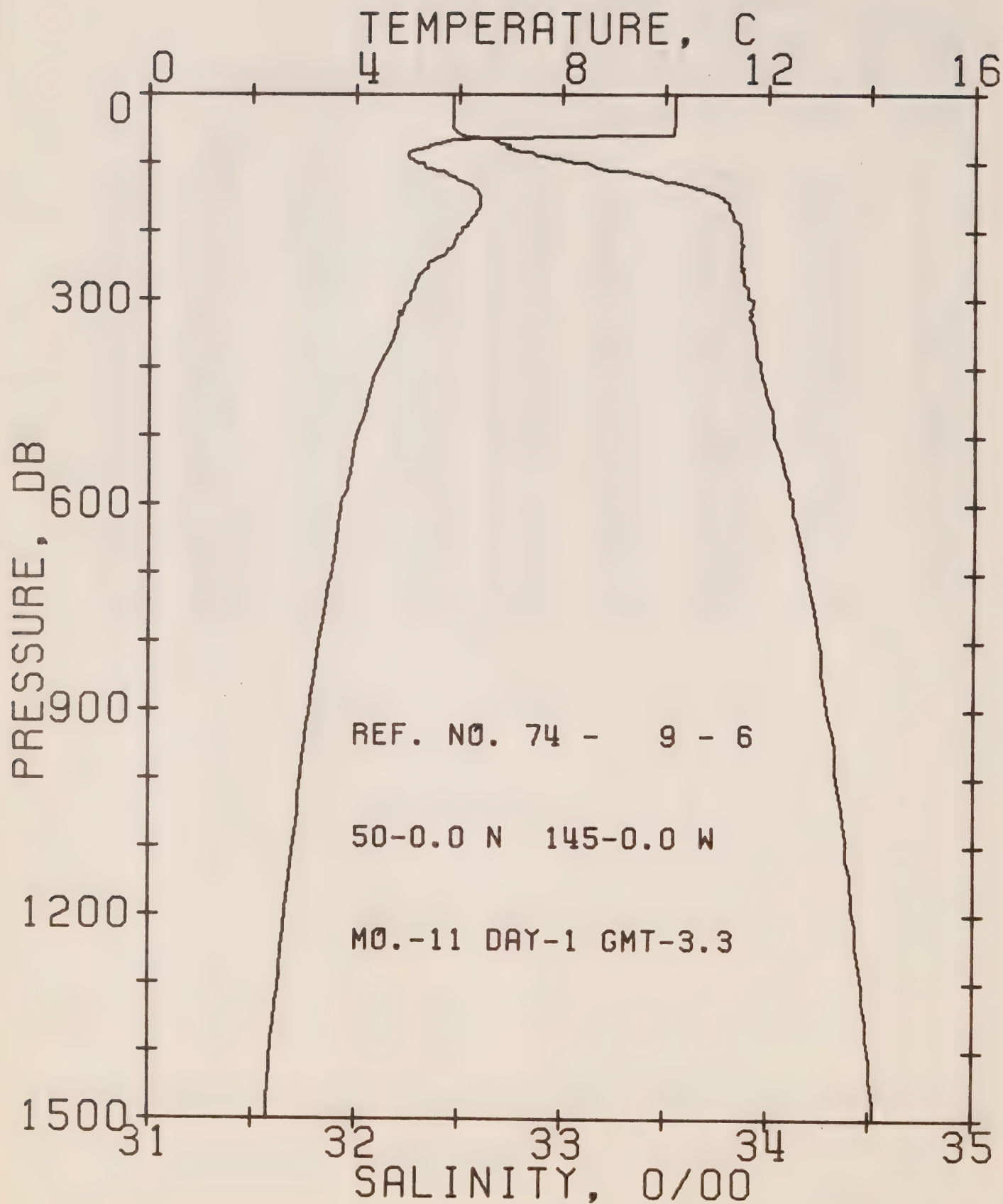
REFERENCE NO. 74- 9- 5

DATE 26/10/74

POSITION 49- 2.0N, 130-40.0W GMT 18.1

RESULTS OF STP CAST 253 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.06	32.53	0	24.29	364.2	0.0	0.0	1501.
10	14.04	32.53	10	24.30	364.2	0.36	0.02	1501.
20	14.04	32.53	20	24.30	364.5	0.73	0.07	1502.
30	14.04	32.53	30	24.30	364.7	1.09	0.17	1502.
50	11.47	32.60	50	24.85	312.5	1.81	0.46	1493.
75	7.53	32.71	75	25.57	243.6	2.49	0.89	1479.
100	6.64	32.80	99	25.76	225.6	3.08	1.41	1476.
125	6.40	33.13	124	26.05	198.6	3.61	2.02	1476.
150	6.37	33.54	149	26.38	168.0	4.07	2.67	1477.
175	6.17	33.77	174	26.58	148.6	4.46	3.31	1477.
200	5.89	33.84	199	26.67	140.3	4.83	4.00	1476.
225	5.62	33.84	224	26.71	137.3	5.17	4.76	1476.
250	5.43	33.84	248	26.73	135.2	5.51	5.58	1475.
300	4.99	33.87	298	26.81	128.6	6.17	7.43	1474.
400	4.36	33.94	397	26.93	117.1	7.41	11.84	1473.
500	4.00	34.02	496	27.03	108.2	8.54	17.00	1474.
600	3.78	34.10	595	27.12	100.4	9.53	22.83	1475.
800	3.43	34.25	793	27.27	87.3	11.45	36.12	1477.
1000	3.12	34.35	991	27.38	77.8	13.11	51.28	1479.
1200	2.74	34.44	1188	27.49	67.8	14.55	67.50	1480.



OFFSHORE OCEANOGRAPHY GROUP

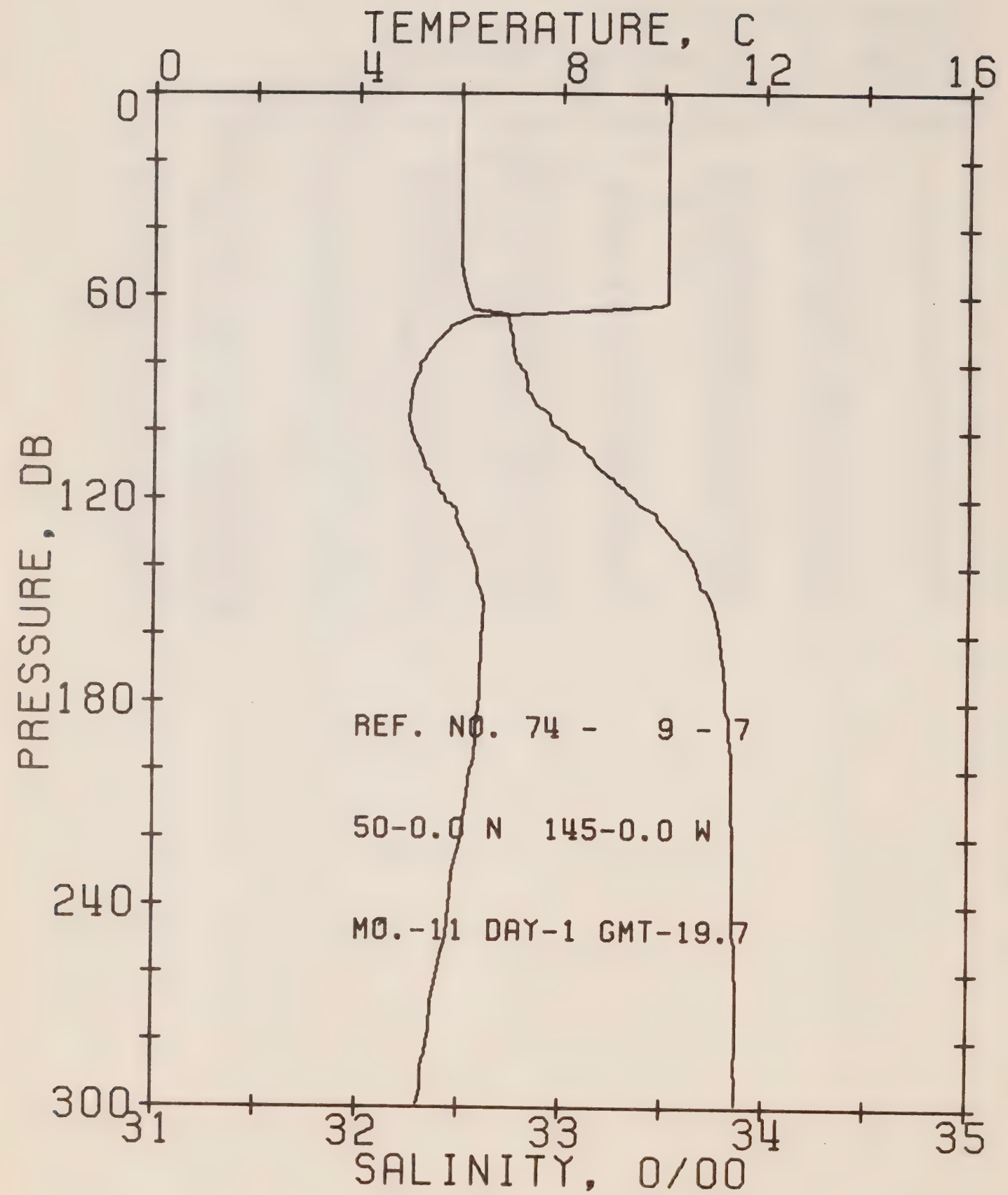
REFERENCE NO. 74- 9- 6

DATE 1/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 3.3

RESULTS OF STP CAST 237 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.22	32.47	0	24.97	300.0	0.0	0.0	1488.
10	10.19	32.47	10	24.97	299.8	0.30	0.02	1488.
20	10.19	32.47	20	24.97	300.0	0.60	0.06	1488.
30	10.18	32.47	30	24.97	300.1	0.90	0.14	1488.
50	10.17	32.47	50	24.97	300.3	1.50	0.38	1489.
75	5.41	32.74	75	25.86	215.5	2.15	0.79	1471.
100	5.31	33.12	99	26.18	186.2	2.65	1.24	1471.
125	5.97	33.49	124	26.39	166.5	3.09	1.74	1475.
150	6.40	33.77	149	26.56	150.8	3.49	2.30	1478.
175	6.30	33.82	174	26.61	146.4	3.86	2.91	1478.
200	6.02	33.87	199	26.68	139.6	4.22	3.59	1477.
225	5.82	33.87	223	26.71	137.5	4.56	4.34	1477.
250	5.39	33.87	248	26.76	132.7	4.90	5.16	1475.
300	5.03	33.93	298	26.85	124.5	5.55	6.97	1475.
400	4.43	33.96	397	26.94	116.3	6.76	11.28	1474.
500	4.00	34.03	496	27.04	107.4	7.87	16.39	1474.
600	3.71	34.12	595	27.14	98.3	8.90	22.14	1474.
800	3.29	34.25	793	27.28	85.7	10.74	35.21	1476.
1000	2.92	34.34	990	27.39	76.5	12.36	50.04	1478.
1200	2.63	34.42	1188	27.48	68.5	13.81	66.26	1480.



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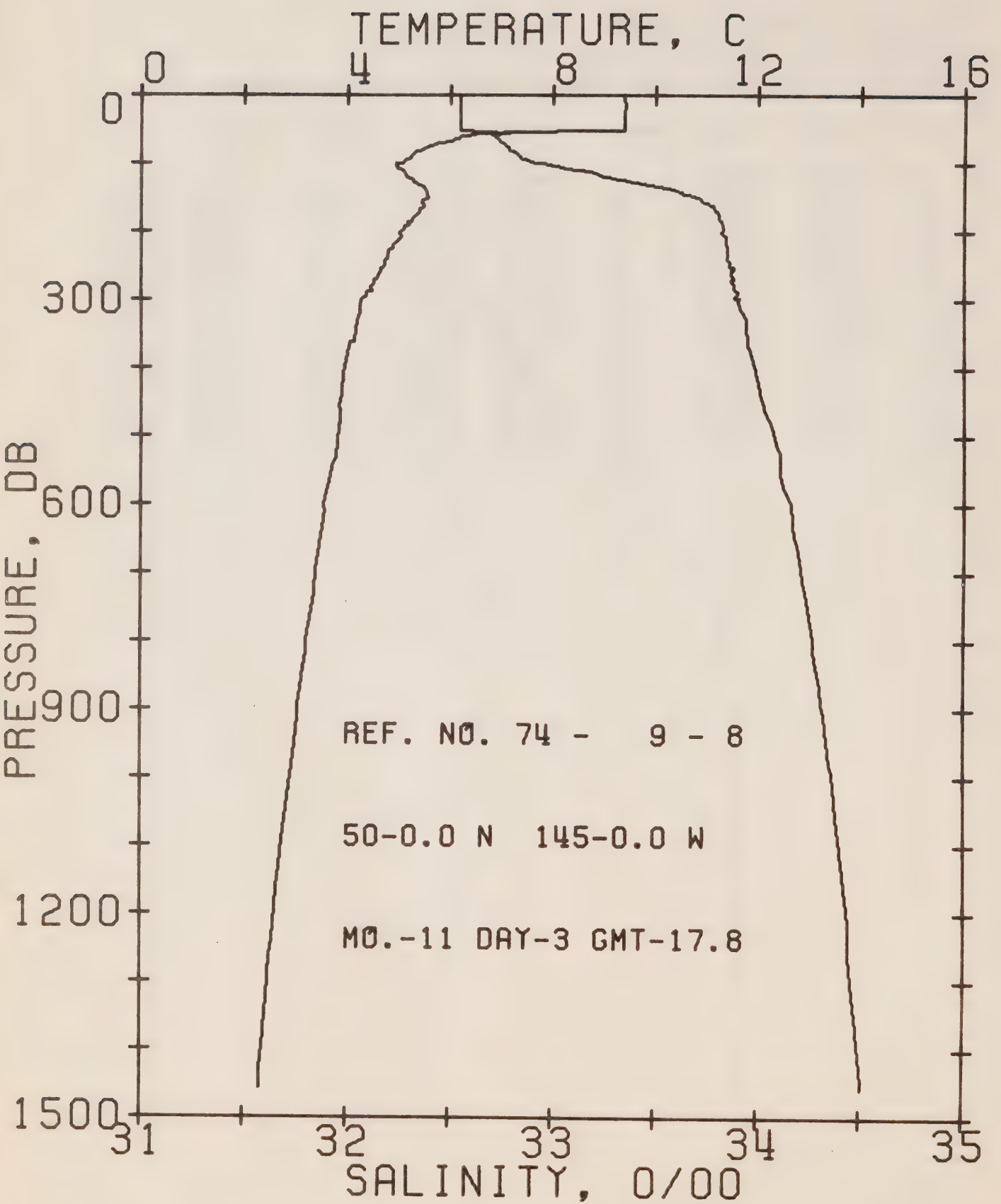
REFERENCE NO. 74- 9- 7

DATE 1/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 19.7

RESULTS OF STP CAST 125 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.09	32.50	0	25.01	295.6	0.0	0.0	1488.
10	10.09	32.50	10	25.01	296.1	0.30	0.02	1488.
20	10.09	32.50	20	25.01	296.2	0.59	0.06	1488.
30	10.08	32.50	30	25.01	296.2	0.89	0.14	1488.
50	10.07	32.50	50	25.01	296.5	1.48	0.38	1488.
75	5.45	32.75	75	25.87	215.0	2.14	0.79	1471.
100	5.04	33.01	99	26.12	191.4	2.65	1.24	1470.
125	5.93	33.47	124	26.38	167.4	3.10	1.76	1475.
150	6.46	33.73	149	26.52	154.7	3.50	2.32	1478.
175	6.41	33.81	174	26.58	148.7	3.88	2.95	1478.
200	6.21	33.84	199	26.63	144.2	4.25	3.65	1478.
225	5.96	33.85	223	26.67	140.7	4.60	4.42	1477.
250	5.74	33.85	248	26.70	138.1	4.95	5.26	1477.



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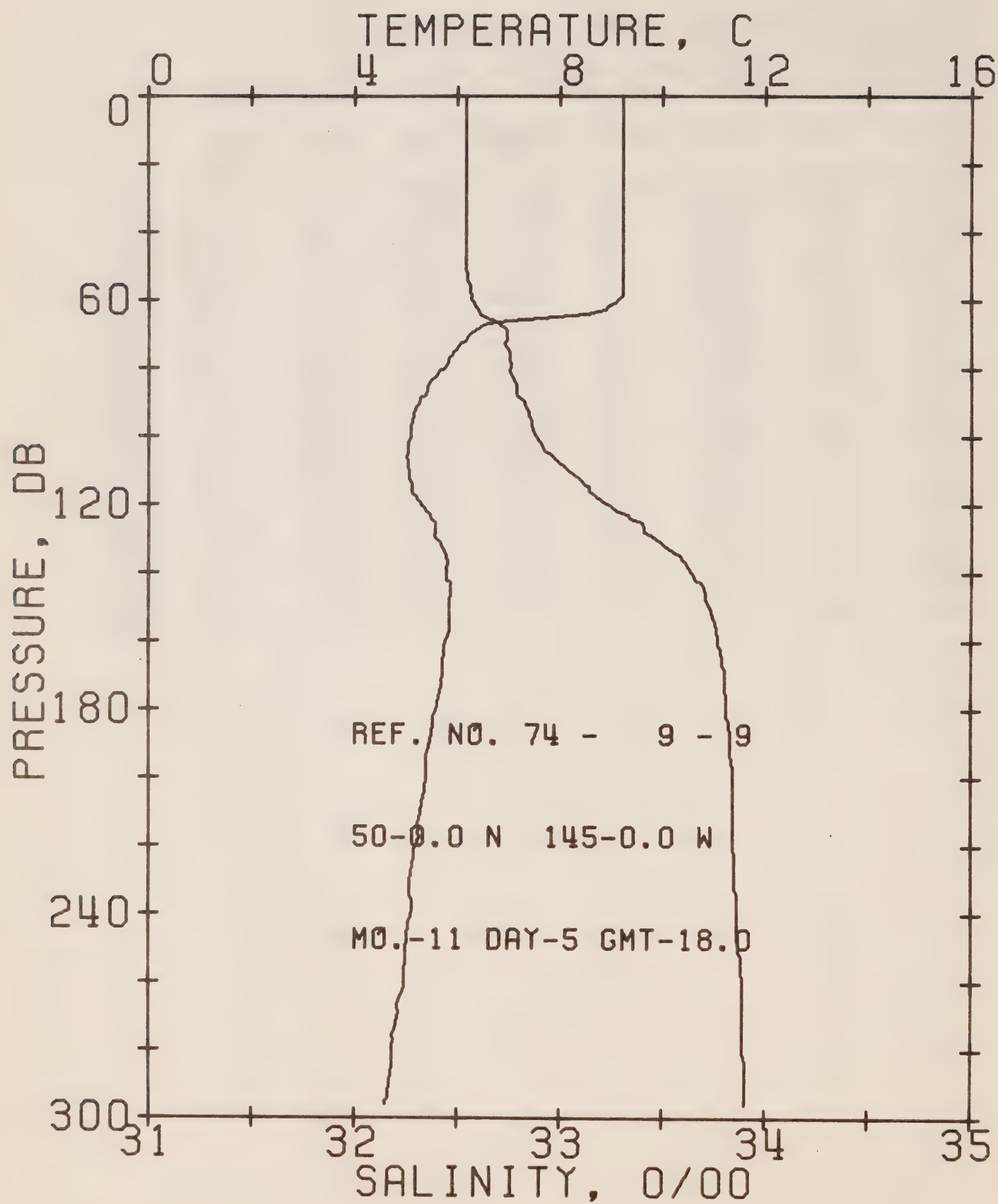
REFERENCE NO. 74- 9- 8

DATE 3/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.8

RESULTS OF STD CAST 218 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.39	32.55	0	25.16	281.1	0.0	0.0	1485.
10	9.40	32.55	10	25.16	281.6	0.28	0.01	1485.
20	9.40	32.55	20	25.16	281.8	0.56	0.06	1485.
30	9.39	32.55	30	25.16	281.8	0.84	0.13	1485.
50	9.39	32.55	50	25.16	282.2	1.41	0.36	1486.
75	5.56	32.78	75	25.88	214.2	1.99	0.72	1472.
100	5.04	32.94	99	26.06	196.7	2.50	1.18	1470.
125	5.27	33.37	124	26.38	167.3	2.96	1.70	1472.
150	5.57	33.71	149	26.61	145.5	3.35	2.25	1474.
175	5.34	33.80	174	26.71	136.0	3.70	2.83	1474.
200	5.03	33.82	199	26.77	131.3	4.03	3.46	1473.
225	4.86	33.85	223	26.80	127.8	4.35	4.17	1473.
250	4.70	33.86	248	26.83	125.5	4.67	4.93	1472.
300	4.27	33.91	298	26.91	117.8	5.28	6.64	1471.
400	3.94	33.98	397	27.01	109.5	6.42	10.69	1472.
500	3.82	34.08	496	27.10	101.9	7.48	15.54	1473.
600	3.55	34.16	595	27.19	93.7	8.46	21.05	1474.
800	3.21	34.27	793	27.31	83.3	10.24	33.69	1476.
1000	2.90	34.36	990	27.41	74.4	11.82	48.15	1478.
1200	2.61	34.43	1188	27.49	66.9	13.23	63.97	1480.



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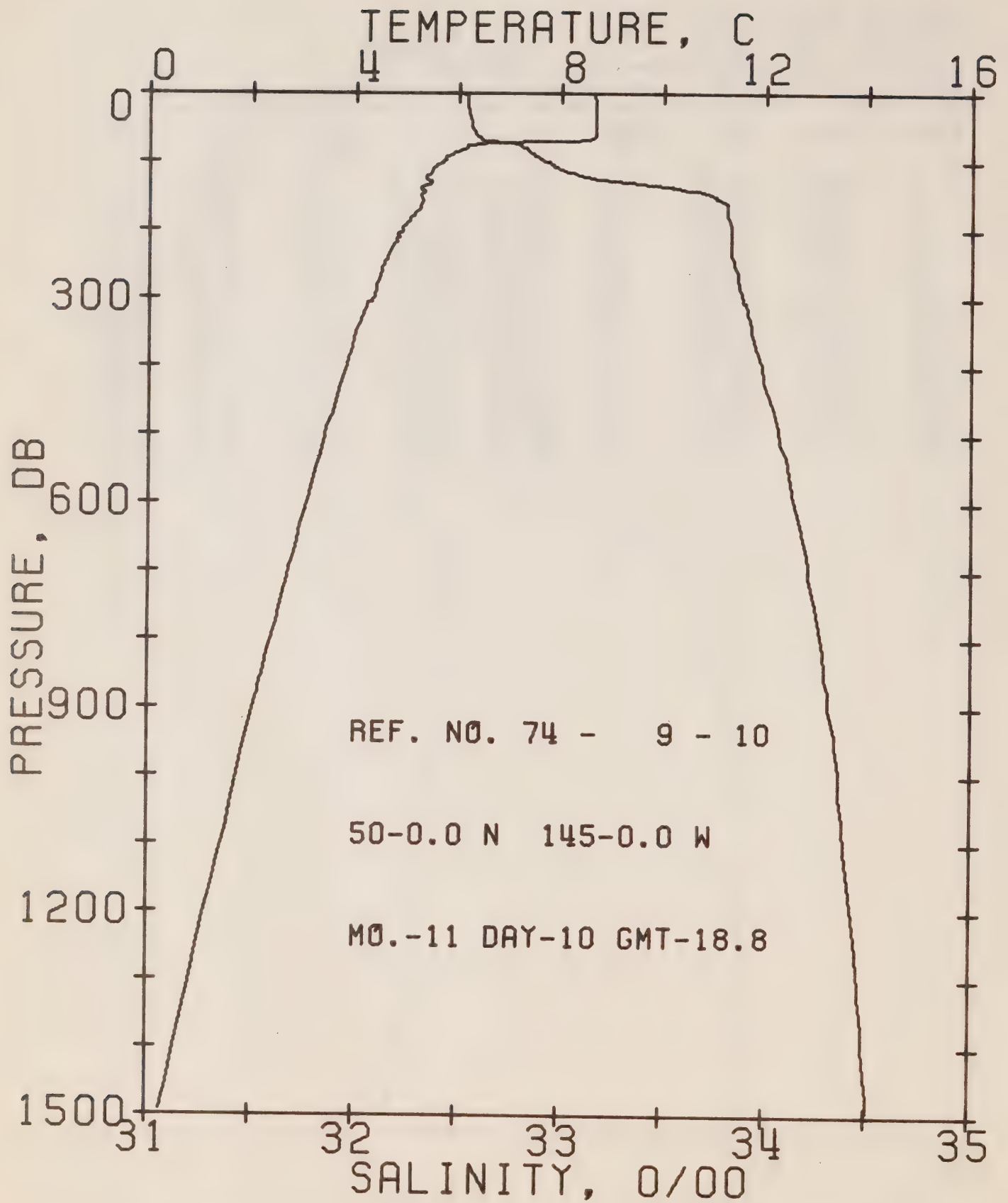
REFERENCE NO. 74- 9- 9

DATE 5/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 150 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.22	32.54	0	25.18	279.2	0.0	0.0	1484.
10	9.22	32.54	10	25.18	279.6	0.28	0.01	1485.
20	9.22	32.54	20	25.18	279.7	0.56	0.06	1485.
30	9.22	32.54	30	25.18	279.9	0.84	0.13	1485.
50	9.23	32.54	50	25.18	280.5	1.40	0.36	1485.
75	5.92	32.75	75	25.81	220.6	2.04	0.76	1473.
100	5.09	32.88	99	26.01	201.7	2.57	1.23	1470.
125	5.56	33.40	124	26.37	168.3	3.03	1.76	1473.
150	5.85	33.73	149	26.59	147.4	3.43	2.31	1475.
175	5.65	33.80	174	26.68	139.7	3.78	2.90	1475.
200	5.39	33.84	199	26.74	134.3	4.12	3.55	1474.
225	5.12	33.85	223	26.78	130.7	4.46	4.27	1474.
250	4.99	33.87	248	26.81	128.0	4.78	5.06	1474.



OFFSHORE OCEANOGRAPHY GROUP

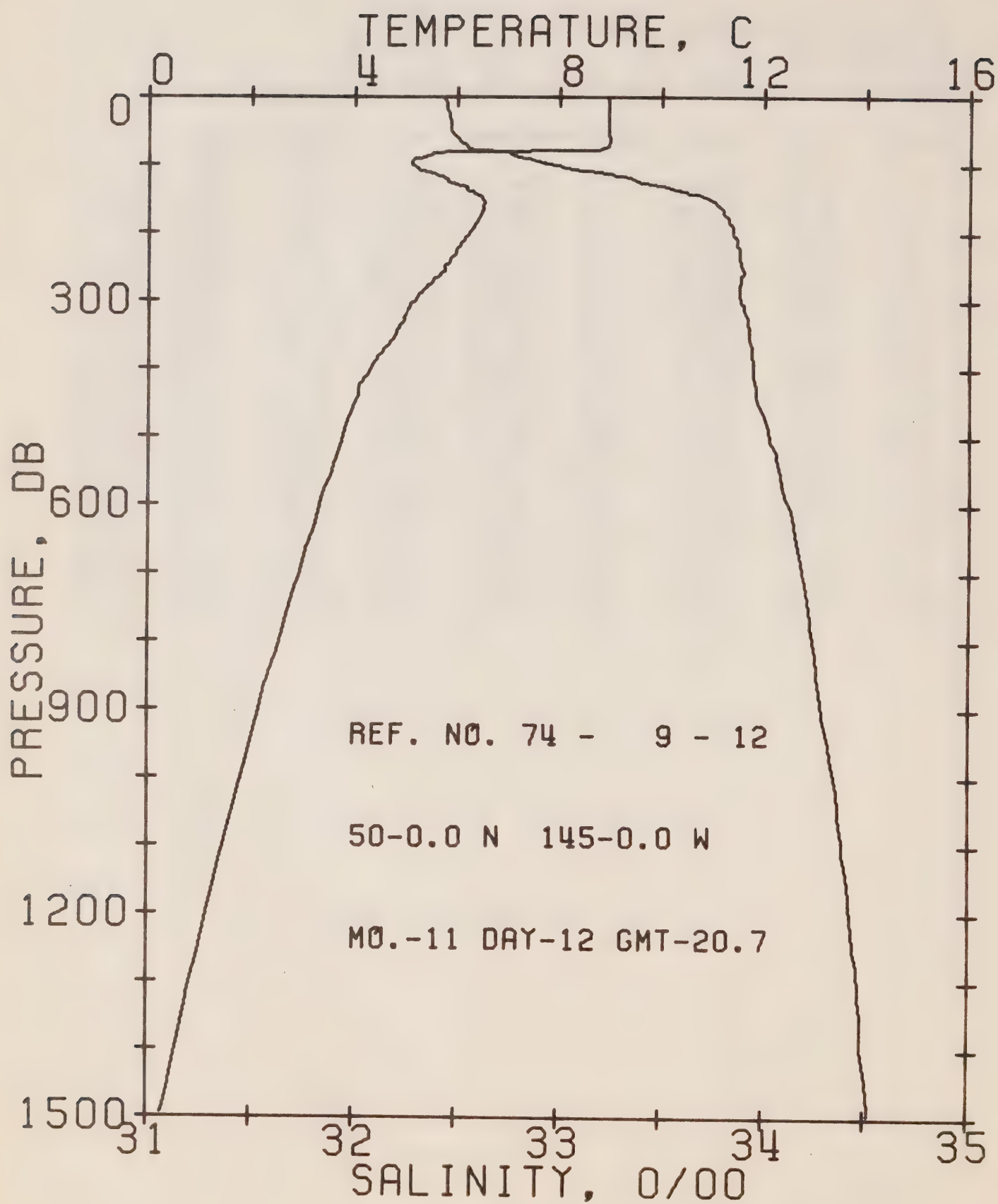
REFERENCE NO. 74- 9- 10

DATE 10/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.8

RESULTS OF STP CAST 181 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.65	32.52	0	25.26	272.3	0.0	0.0	1482.
10	8.66	32.54	10	25.27	271.3	0.27	0.01	1482.
20	8.66	32.54	20	25.27	271.3	0.54	0.06	1483.
30	8.66	32.55	30	25.28	270.9	0.81	0.12	1483.
50	8.66	32.56	50	25.29	270.2	1.35	0.34	1483.
75	6.26	32.80	75	25.81	220.9	2.00	0.76	1474.
100	5.70	32.93	99	25.98	204.9	2.54	1.23	1473.
125	5.35	33.18	124	26.22	182.4	3.02	1.79	1472.
150	5.29	33.74	149	26.67	139.8	3.42	2.34	1473.
175	5.16	33.81	174	26.74	133.6	3.76	2.90	1473.
200	4.90	33.83	199	26.78	129.4	4.08	3.53	1472.
225	4.71	33.83	223	26.81	127.6	4.41	4.22	1472.
250	4.54	33.84	248	26.83	125.3	4.72	4.99	1472.
300	4.34	33.88	298	26.89	120.3	5.34	6.70	1472.
400	3.82	33.98	397	27.02	108.4	6.47	10.75	1471.
500	3.42	34.06	496	27.13	98.7	7.51	15.50	1471.
600	3.06	34.14	595	27.22	90.1	8.45	20.76	1472.
800	2.37	34.27	793	27.38	74.8	10.09	32.43	1472.
1000	1.72	34.36	990	27.51	62.5	11.46	44.94	1473.
1200	1.11	34.42	1188	27.60	52.6	12.62	57.89	1473.



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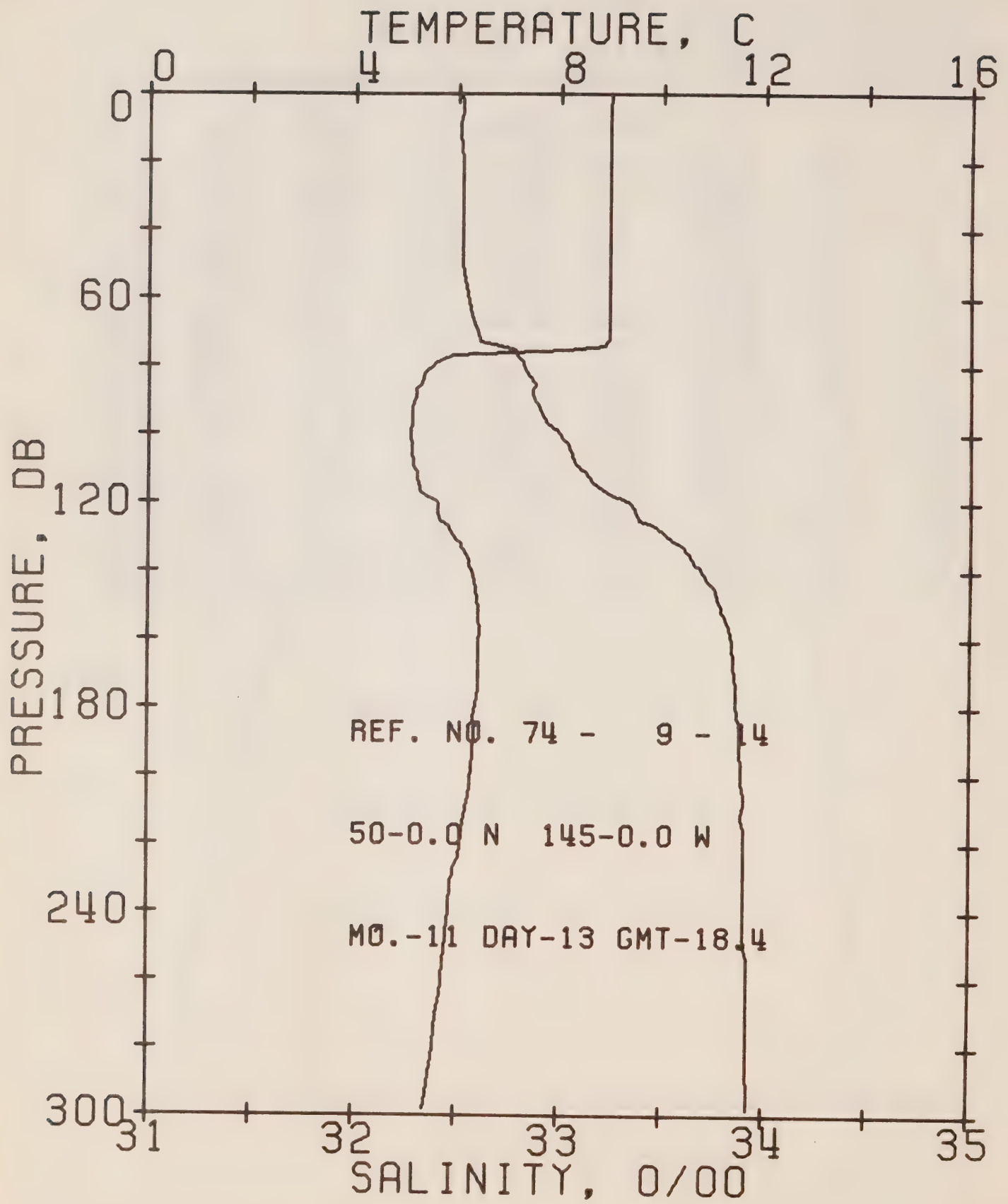
REFERENCE NO. 74- 9- 12

DATE 12/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 20.7

RESULTS OF STP CAST 202 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.95	32.43	0	25.14	283.4	0.0	0.0	1483.
10	8.96	32.45	10	25.15	282.8	0.28	0.01	1483.
20	8.97	32.45	20	25.16	282.4	0.57	0.06	1484.
30	8.96	32.46	30	25.16	281.9	0.85	0.13	1484.
50	8.96	32.47	50	25.17	281.6	1.41	0.36	1484.
75	8.86	32.57	75	25.26	273.1	2.11	0.80	1484.
100	5.13	32.99	99	26.10	193.5	2.65	1.28	1471.
125	5.86	33.41	124	26.34	171.1	3.10	1.80	1474.
150	6.52	33.74	149	26.52	154.9	3.51	2.37	1478.
175	6.43	33.82	174	26.59	148.2	3.89	2.99	1478.
200	6.23	33.85	199	26.64	143.7	4.25	3.69	1478.
225	5.99	33.88	223	26.69	138.8	4.60	4.45	1477.
250	5.77	33.89	248	26.73	135.5	4.95	5.29	1477.
300	5.18	33.89	298	26.80	129.2	5.61	7.14	1475.
400	4.31	33.95	397	26.94	115.9	6.83	11.48	1473.
500	3.77	34.03	496	27.06	105.2	7.94	16.55	1473.
600	3.34	34.13	595	27.18	94.0	8.93	22.13	1473.
800	2.55	34.24	793	27.34	78.6	10.65	34.31	1473.
1000	1.80	34.35	990	27.49	64.2	12.08	47.39	1473.
1200	1.15	34.43	1188	27.60	52.7	13.24	60.40	1473.



OFFSHORE OCEANOGRAPHY GROUP

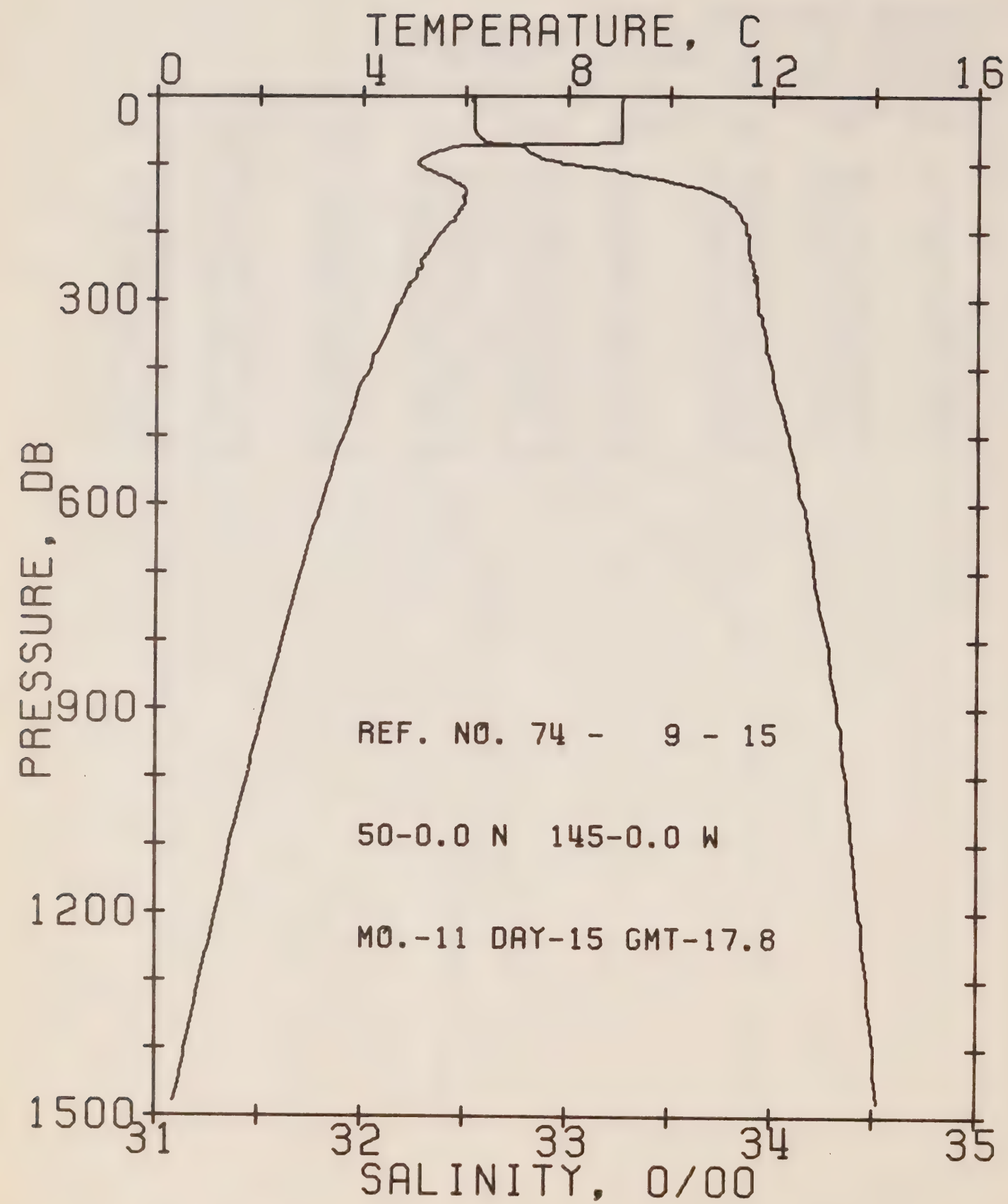
REFERENCE NO. 74- 9- 14

DATE 13/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.4

RESULTS OF STD CAST 121 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.98	32.51	0	25.20	277.9	0.0	0.0	1483.
10	8.96	32.51	10	25.20	277.9	0.28	0.01	1483.
20	8.96	32.52	20	25.21	277.4	0.56	0.06	1484.
30	8.96	32.52	30	25.21	277.5	0.83	0.13	1484.
50	8.96	32.52	50	25.21	277.9	1.39	0.35	1484.
75	8.13	32.78	75	25.54	246.9	2.07	0.79	1482.
100	5.10	33.00	99	26.11	192.8	2.59	1.25	1470.
125	5.67	33.39	124	26.35	170.4	3.04	1.77	1474.
150	6.42	33.78	149	26.56	150.5	3.44	2.32	1478.
175	6.41	33.86	174	26.62	145.0	3.80	2.93	1478.
200	6.28	33.99	199	26.66	141.4	4.16	3.61	1478.
225	6.01	33.90	223	26.71	137.6	4.51	4.37	1477.
250	5.79	33.91	248	26.74	134.7	4.85	5.19	1477.



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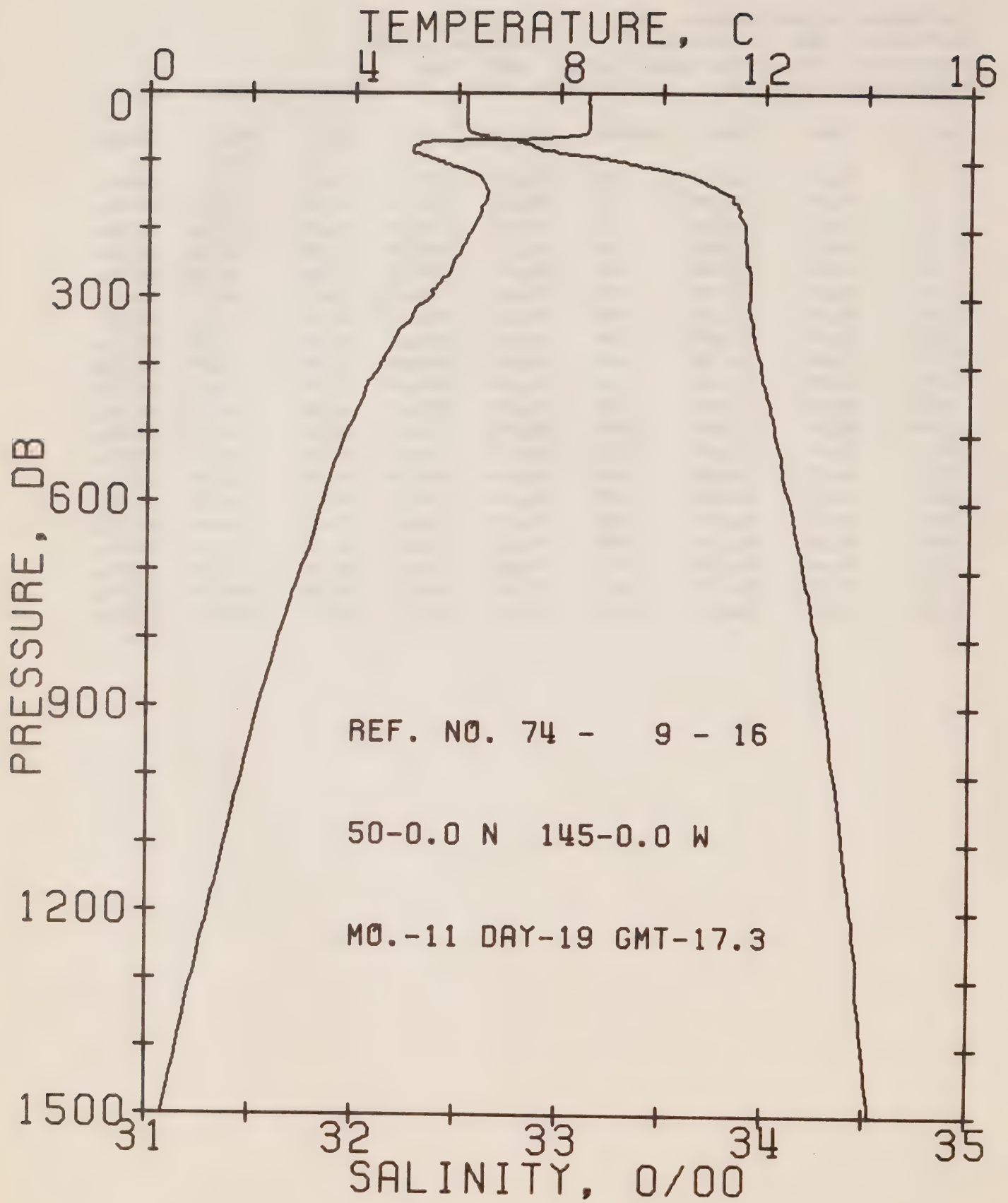
REFERENCE NO. 74- 9- 15

DATE 15/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.8

RESULTS OF STP CAST 239 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.10	32.54	0	25.20	277.5	0.0	0.0	1484.
10	9.03	32.54	10	25.21	276.8	0.28	0.01	1484.
20	9.04	32.54	20	25.21	277.1	0.55	0.06	1484.
30	9.04	32.54	30	25.21	277.3	0.83	0.13	1484.
50	9.05	32.54	50	25.21	277.7	1.39	0.35	1485.
75	5.69	32.79	75	25.87	214.9	2.05	0.77	1472.
100	5.09	32.99	99	26.10	193.4	2.56	1.23	1470.
125	5.77	33.50	124	26.42	163.3	3.00	1.73	1474.
150	5.96	33.76	149	26.60	146.4	3.38	2.27	1476.
175	5.79	33.84	174	26.69	138.8	3.74	2.86	1476.
200	5.53	33.87	199	26.74	133.7	4.08	3.51	1475.
225	5.30	33.88	223	26.78	130.6	4.41	4.22	1474.
250	5.14	33.90	248	26.81	127.5	4.73	5.00	1474.
300	4.75	33.93	298	26.88	121.4	5.35	6.74	1473.
400	4.13	34.00	397	27.00	110.5	6.51	10.86	1473.
500	3.62	34.08	496	27.12	99.7	7.56	15.68	1472.
600	3.19	34.15	595	27.21	90.7	8.51	21.01	1472.
800	2.44	34.27	793	27.38	75.4	10.18	32.84	1472.
1000	1.76	34.37	990	27.51	62.4	11.56	45.42	1473.
1200	1.16	34.43	1188	27.60	52.7	12.71	58.32	1473.



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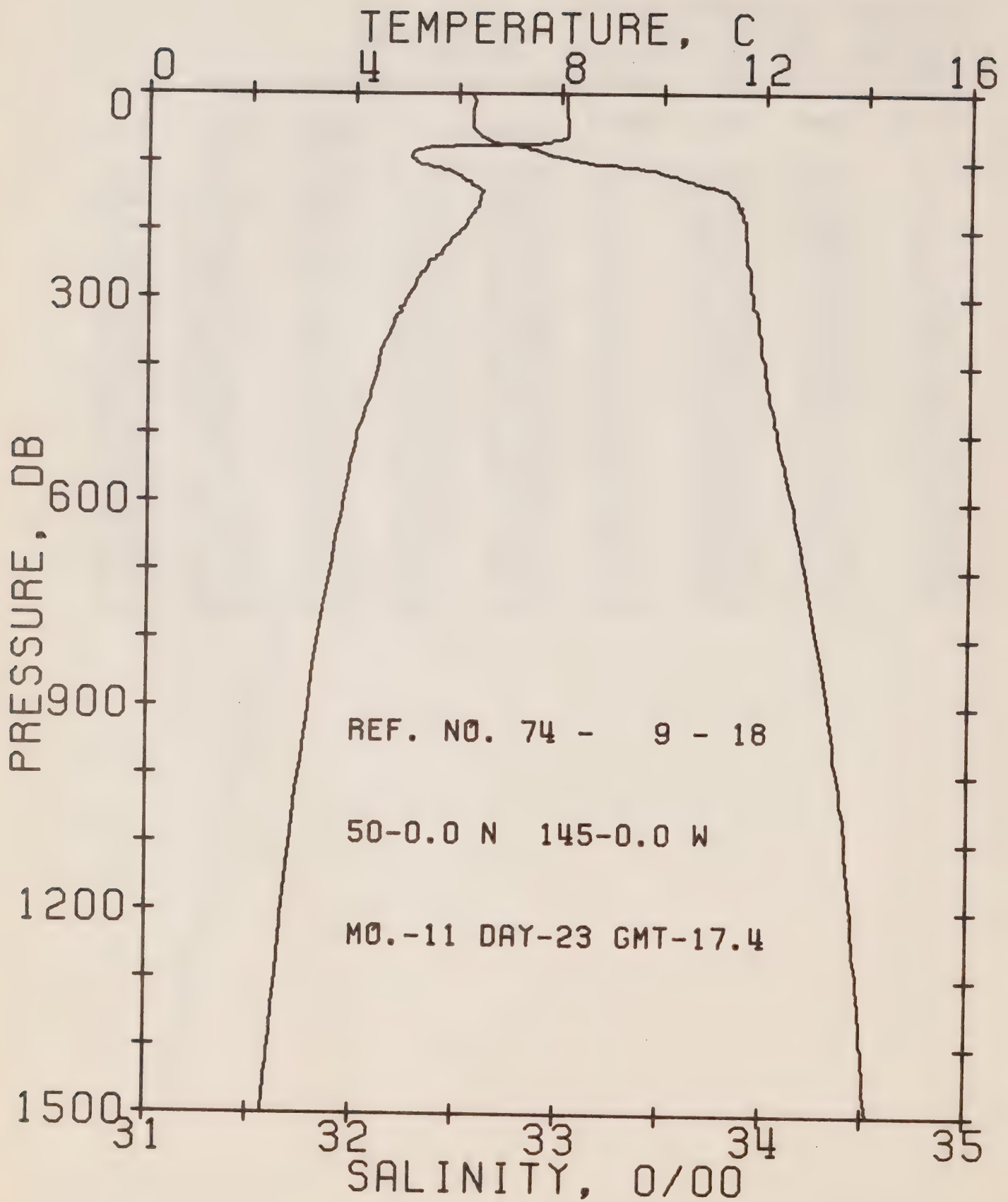
REFERENCE NO. 74- 9- 16

DATE 19/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.3

RESULTS OF STP CAST 206 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.56	32.54	0	25.29	269.6	0.0	0.0	1482.
10	8.54	32.54	10	25.29	269.7	0.27	0.01	1482.
20	8.55	32.54	20	25.29	270.0	0.54	0.06	1482.
30	8.56	32.54	30	25.29	270.3	0.81	0.12	1482.
50	8.55	32.54	50	25.29	270.4	1.35	0.34	1483.
75	5.22	32.86	75	25.98	204.4	1.97	0.73	1470.
100	5.63	33.30	99	26.28	176.3	2.45	1.16	1473.
125	6.46	33.67	124	26.47	159.1	2.87	1.64	1477.
150	6.57	33.83	149	26.58	148.6	3.25	2.18	1478.
175	6.43	33.87	174	26.63	144.2	3.62	2.78	1478.
200	6.27	33.90	199	26.67	140.5	3.97	3.46	1478.
225	6.08	33.91	223	26.71	137.7	4.32	4.22	1478.
250	5.90	33.91	248	26.73	135.8	4.66	5.05	1477.
300	5.47	33.93	298	26.80	129.7	5.32	6.90	1476.
400	4.49	33.98	397	26.95	115.7	6.55	11.25	1474.
500	3.84	34.05	496	27.07	104.1	7.64	16.27	1473.
600	3.39	34.13	595	27.18	94.5	8.64	21.83	1473.
900	2.54	34.26	793	27.36	76.9	10.36	34.06	1473.
1000	1.83	34.35	990	27.49	64.4	11.78	46.99	1473.
1200	1.19	34.43	1188	27.60	52.9	12.95	60.08	1474.



OFFSHORE OCEANOGRAPHY GROUP

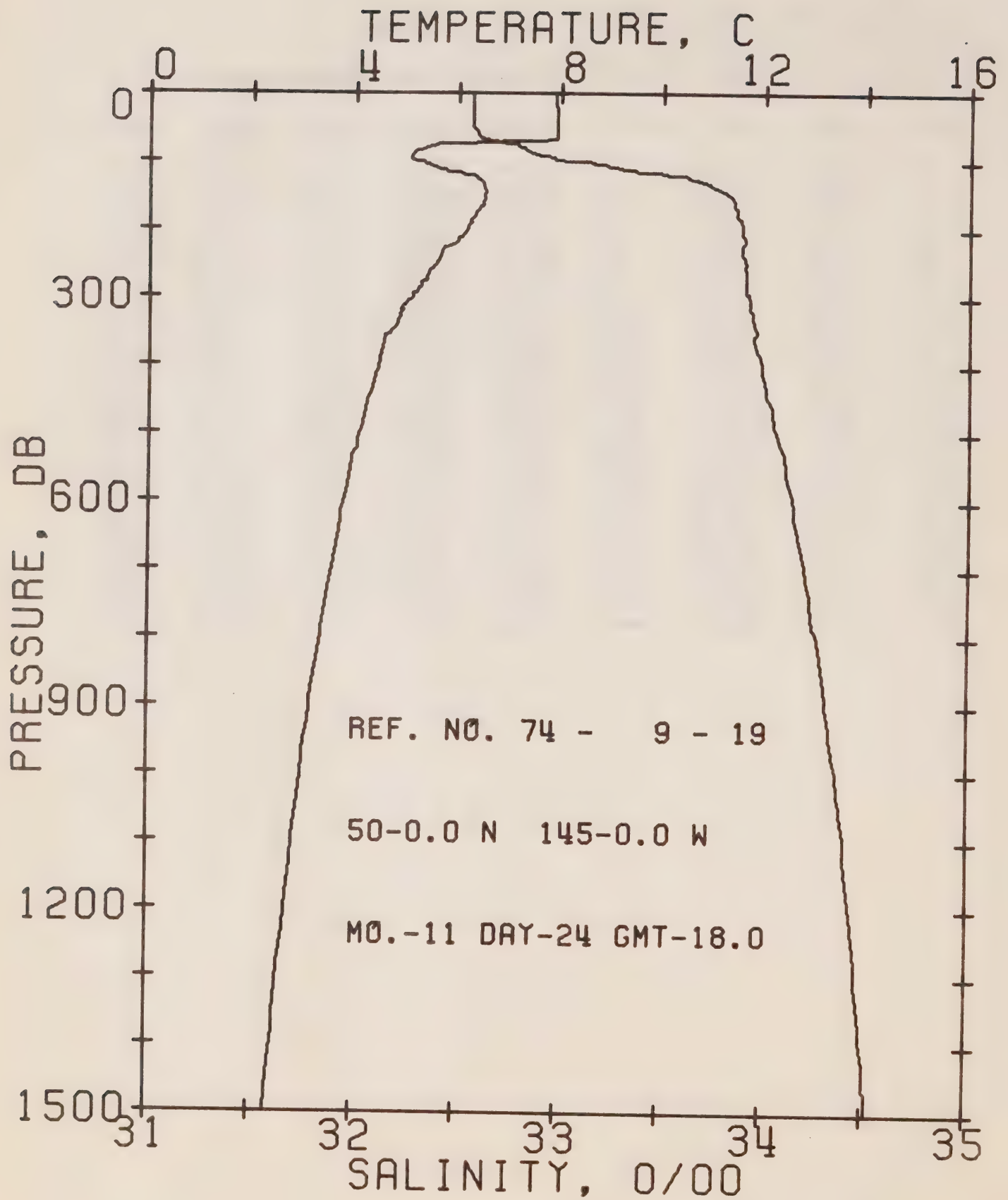
REFERENCE NO. 74- 9- 18

DATE 23/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.4

RESULTS OF STP CAST 238 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.11	32.57	0	25.38	260.9	0.0	0.0	1480.
10	8.11	32.58	10	25.38	260.7	0.26	0.01	1480.
20	8.11	32.57	20	25.38	261.2	0.52	0.05	1481.
30	8.11	32.57	30	25.38	261.6	0.78	0.12	1481.
50	8.12	32.57	50	25.37	262.0	1.31	0.33	1481.
75	6.47	32.79	75	25.77	224.2	1.95	0.74	1475.
100	5.19	33.11	99	26.18	185.6	2.44	1.18	1471.
125	6.10	33.60	124	26.46	159.8	2.87	1.67	1476.
150	6.45	33.84	149	26.60	146.8	3.25	2.20	1478.
175	6.29	33.89	174	26.66	141.5	3.61	2.80	1478.
200	6.06	33.90	199	26.70	137.9	3.96	3.47	1477.
225	5.73	33.91	223	26.75	133.4	4.30	4.20	1476.
250	5.41	33.91	248	26.79	129.9	4.63	5.00	1475.
300	5.03	33.94	298	26.86	123.7	5.26	6.77	1475.
400	4.46	34.00	397	26.97	113.8	6.44	10.98	1474.
500	4.04	34.06	496	27.06	105.7	7.54	16.02	1474.
600	3.80	34.14	595	27.15	97.7	8.56	21.73	1475.
800	3.31	34.26	793	27.29	85.3	10.39	34.73	1476.
1000	2.97	34.37	990	27.41	74.5	11.98	49.29	1478.
1200	2.66	34.44	1188	27.49	67.4	13.40	65.12	1480.
1500	2.29	34.53	1484	27.60	58.0	15.28	91.01	1484.



OFFSHORE OCEANOGRAPHY GROUP

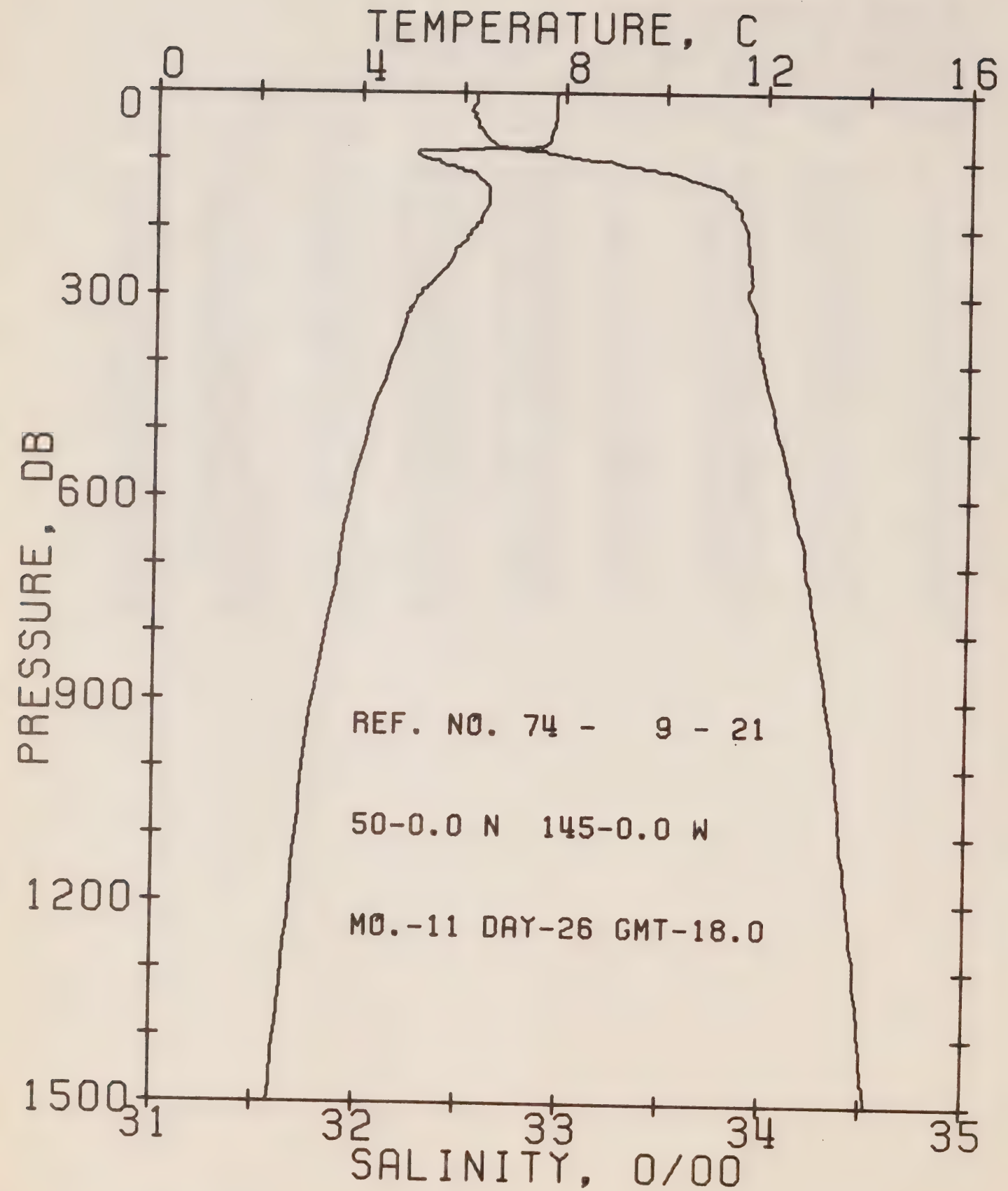
REFERENCE NO. 74- 9- 19

DATE 24/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 210 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.90	32.57	0	25.41	258.0	0.0	0.0	1479.
10	7.90	32.57	10	25.41	258.4	0.26	0.01	1480.
20	7.91	32.57	20	25.41	258.7	0.52	0.05	1480.
30	7.91	32.57	30	25.41	258.8	0.78	0.12	1480.
50	7.91	32.57	50	25.41	259.1	1.29	0.33	1480.
75	5.59	32.78	75	25.88	214.2	1.92	0.73	1472.
100	5.28	33.12	99	26.18	185.8	2.43	1.18	1471.
125	6.37	33.64	124	26.46	160.2	2.86	1.67	1477.
150	6.52	33.82	149	26.58	148.6	3.24	2.21	1478.
175	6.33	33.86	174	26.63	144.0	3.61	2.81	1478.
200	6.15	33.89	199	26.68	139.8	3.96	3.49	1477.
225	5.75	33.89	223	26.73	135.1	4.31	4.24	1476.
250	5.56	33.90	248	26.77	132.2	4.64	5.05	1476.
300	5.11	33.92	298	26.83	126.2	5.29	6.86	1475.
400	4.46	33.99	397	26.96	114.7	6.49	11.12	1474.
500	4.09	34.06	496	27.05	106.2	7.59	16.19	1474.
600	3.79	34.14	595	27.15	97.5	8.61	21.87	1475.
800	3.34	34.26	793	27.29	85.1	10.44	34.89	1476.
1000	2.98	34.36	990	27.40	75.4	12.04	49.57	1478.
1200	2.70	34.43	1188	27.48	68.4	13.47	65.63	1480.



OFFSHORE OCEANOGRAPHY GROUP

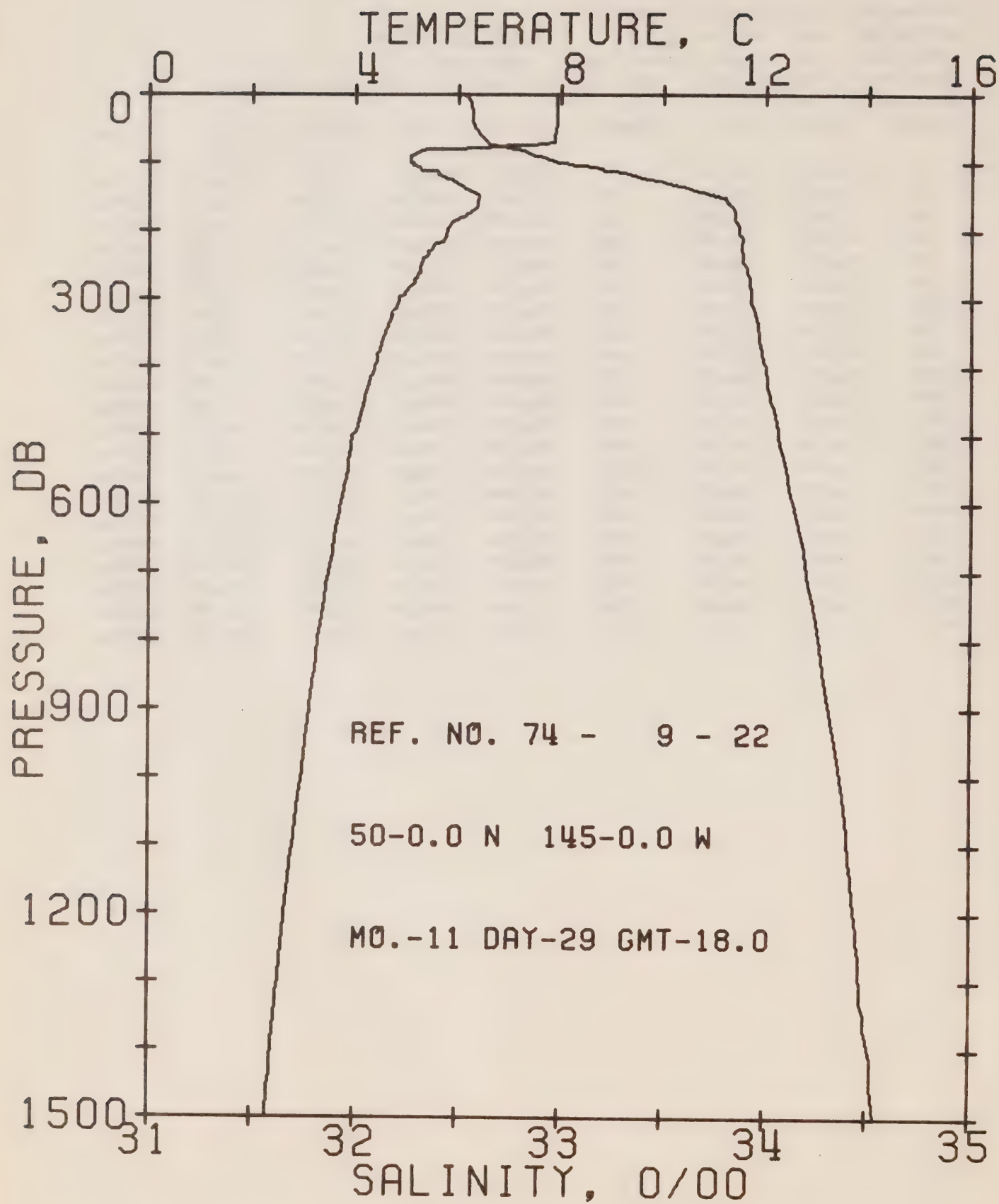
REFERENCE NO. 74- 9- 21

DATE 26/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 191 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.87	32.55	0	25.40	259.1	0.0	0.0	1479.
10	7.81	32.56	10	25.41	257.9	0.26	0.01	1479.
20	7.82	32.55	20	25.40	258.9	0.52	0.05	1479.
30	7.81	32.55	30	25.41	258.6	0.78	0.12	1479.
50	7.78	32.57	50	25.42	257.4	1.29	0.33	1480.
75	7.64	32.65	75	25.51	249.7	1.93	0.73	1480.
100	5.43	33.17	99	26.20	183.7	2.45	1.20	1472.
125	6.30	33.61	124	26.44	161.8	2.88	1.69	1476.
150	6.52	33.91	149	26.57	149.5	3.27	2.23	1478.
175	6.41	33.87	174	26.63	144.2	3.64	2.84	1478.
200	6.22	33.90	199	26.68	140.1	3.99	3.52	1478.
225	5.95	33.91	223	26.72	136.3	4.34	4.27	1477.
250	5.75	33.91	248	26.75	134.0	4.68	5.09	1477.
300	5.16	33.91	298	26.82	127.5	5.33	6.91	1475.
400	4.58	33.99	397	26.94	116.2	6.54	11.22	1474.
500	4.16	34.06	496	27.04	107.1	7.65	16.32	1474.
600	3.84	34.14	595	27.14	98.2	8.67	22.04	1475.
800	3.37	34.26	793	27.29	85.6	10.51	35.08	1476.
1000	2.94	34.36	990	27.41	74.9	12.10	49.69	1478.
1200	2.71	34.42	1188	27.48	68.9	13.54	65.82	1480.
1500	2.32	34.53	1484	27.59	58.3	15.45	92.00	1484.



OFFSHORE OCEANOGRAPHY GROUP

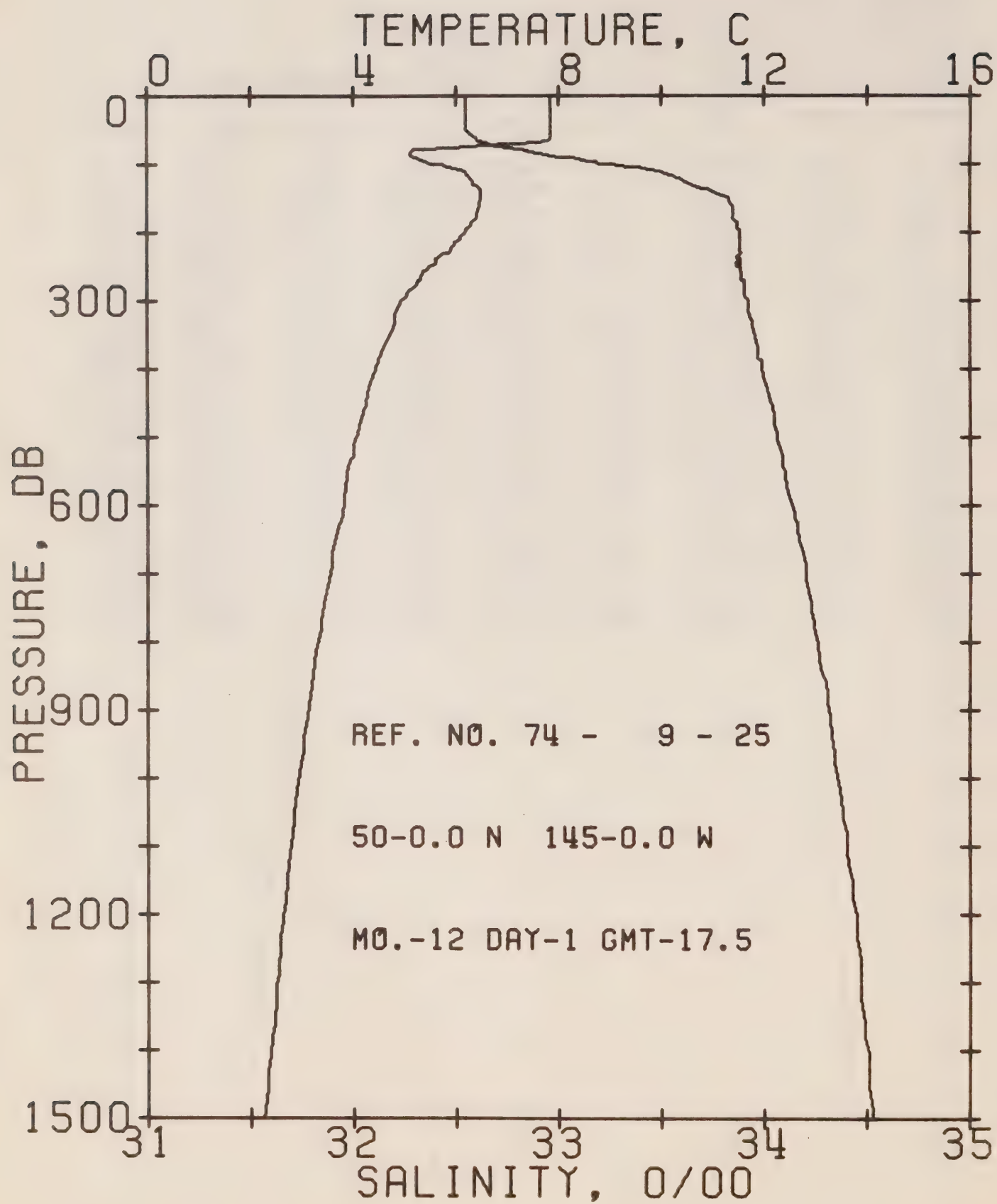
REFERENCE NO. 74- 9- 22

DATE 29/11/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 187 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.91	32.53	0	25.37	261.1	0.0	0.0	1479.
10	7.92	32.56	10	25.39	259.6	0.26	0.01	1480.
20	7.92	32.56	20	25.40	259.3	0.52	0.05	1480.
30	7.92	32.57	30	25.40	259.0	0.78	0.12	1480.
50	7.90	32.58	50	25.41	258.3	1.30	0.33	1480.
75	6.85	32.71	75	25.66	234.9	1.93	0.73	1477.
100	5.10	33.01	99	26.11	192.1	2.45	1.19	1470.
125	5.89	33.48	124	26.39	166.3	2.89	1.70	1475.
150	6.40	33.79	149	26.57	149.7	3.29	2.25	1478.
175	6.19	33.85	174	26.64	142.9	3.65	2.86	1477.
200	5.78	33.87	199	26.71	136.7	4.00	3.52	1476.
225	5.48	33.88	223	26.76	132.6	4.34	4.25	1475.
250	5.27	33.90	248	26.80	129.0	4.66	5.05	1475.
300	4.85	33.93	298	26.87	122.4	5.29	6.81	1474.
400	4.38	34.00	397	26.98	112.9	6.47	10.99	1474.
500	3.96	34.06	496	27.07	104.7	7.56	15.98	1474.
600	3.73	34.13	595	27.15	97.5	8.57	21.64	1474.
800	3.28	34.26	793	27.30	84.7	10.38	34.53	1476.
1000	2.95	34.37	990	27.41	74.4	11.98	49.14	1478.
1200	2.64	34.44	1188	27.49	67.0	13.39	64.96	1480.
1500	2.28	34.54	1484	27.61	57.0	15.25	90.53	1484.



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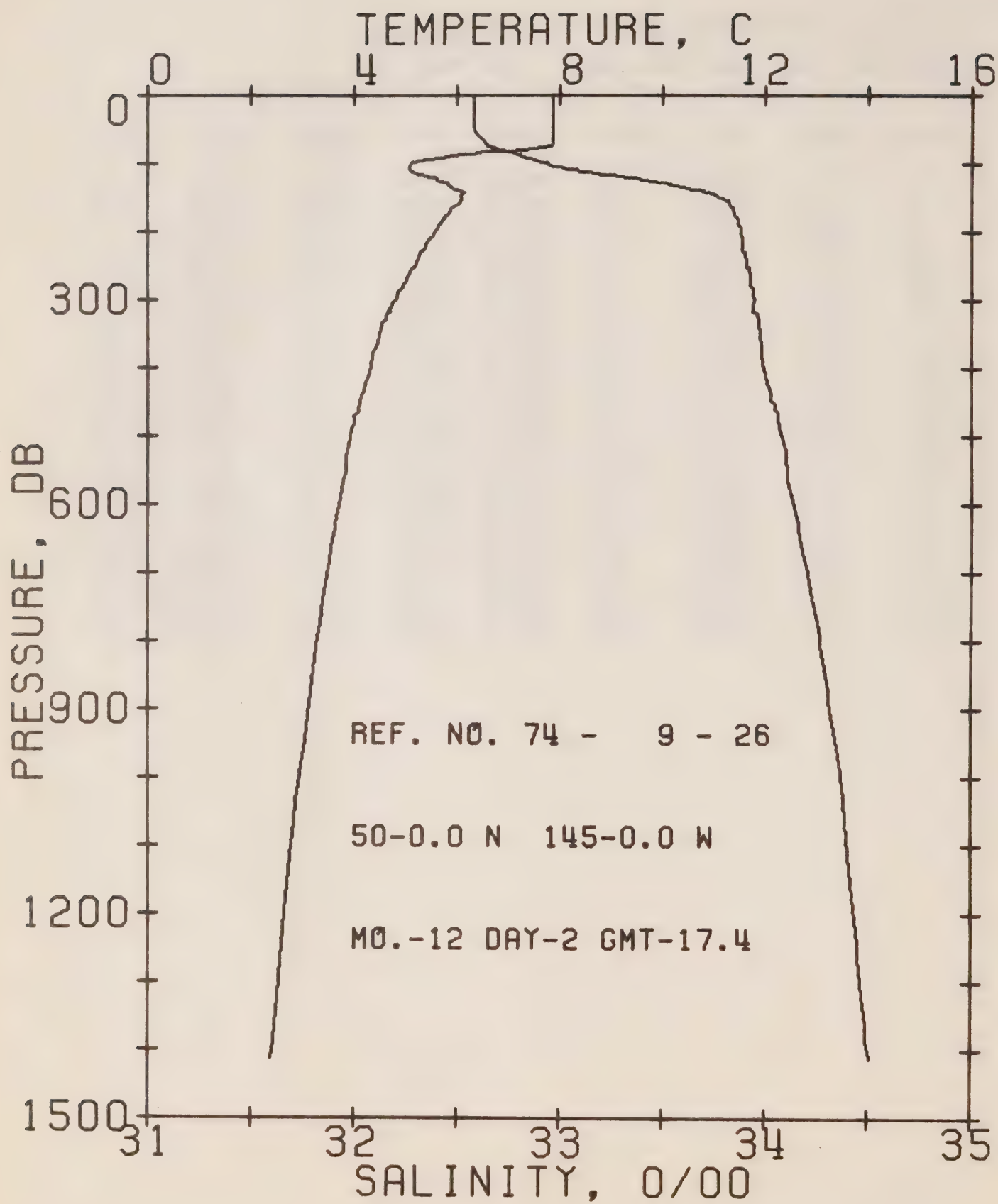
REFERENCE NO. 74- 9- 25

DATE 1/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 220 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.83	32.55	0	25.40	258.6	0.0	0.0	1479.
10	7.84	32.55	10	25.40	259.0	0.26	0.01	1479.
20	7.84	32.55	20	25.40	259.2	0.52	0.05	1479.
30	7.84	32.55	30	25.40	259.3	0.78	0.12	1480.
50	7.84	32.55	50	25.40	259.6	1.30	0.33	1480.
75	6.00	32.74	75	25.79	222.3	1.92	0.73	1473.
100	5.57	33.24	99	26.24	180.2	2.41	1.16	1473.
125	6.32	33.62	124	26.44	161.3	2.83	1.64	1477.
150	6.48	33.83	149	26.59	147.7	3.22	2.18	1478.
175	6.39	33.85	174	26.62	145.4	3.58	2.79	1478.
200	6.17	33.88	199	26.67	140.8	3.94	3.47	1478.
225	5.89	33.88	223	26.71	137.6	4.29	4.23	1477.
250	5.50	33.87	248	26.75	133.9	4.63	5.04	1476.
300	4.93	33.92	298	26.85	124.1	5.27	6.85	1474.
400	4.43	33.99	397	26.96	114.3	6.46	11.10	1474.
500	4.05	34.06	496	27.06	105.7	7.56	16.11	1474.
600	3.80	34.14	595	27.15	98.0	8.58	21.80	1475.
800	3.29	34.26	793	27.29	85.1	10.40	34.78	1476.
1000	2.92	34.36	990	27.40	75.0	12.00	49.38	1478.
1200	2.62	34.45	1188	27.50	66.1	13.41	65.18	1480.
1500	2.25	34.53	1484	27.60	57.5	15.27	90.72	1483.



OFFSHORE OCEANOGRAPHY GROUP

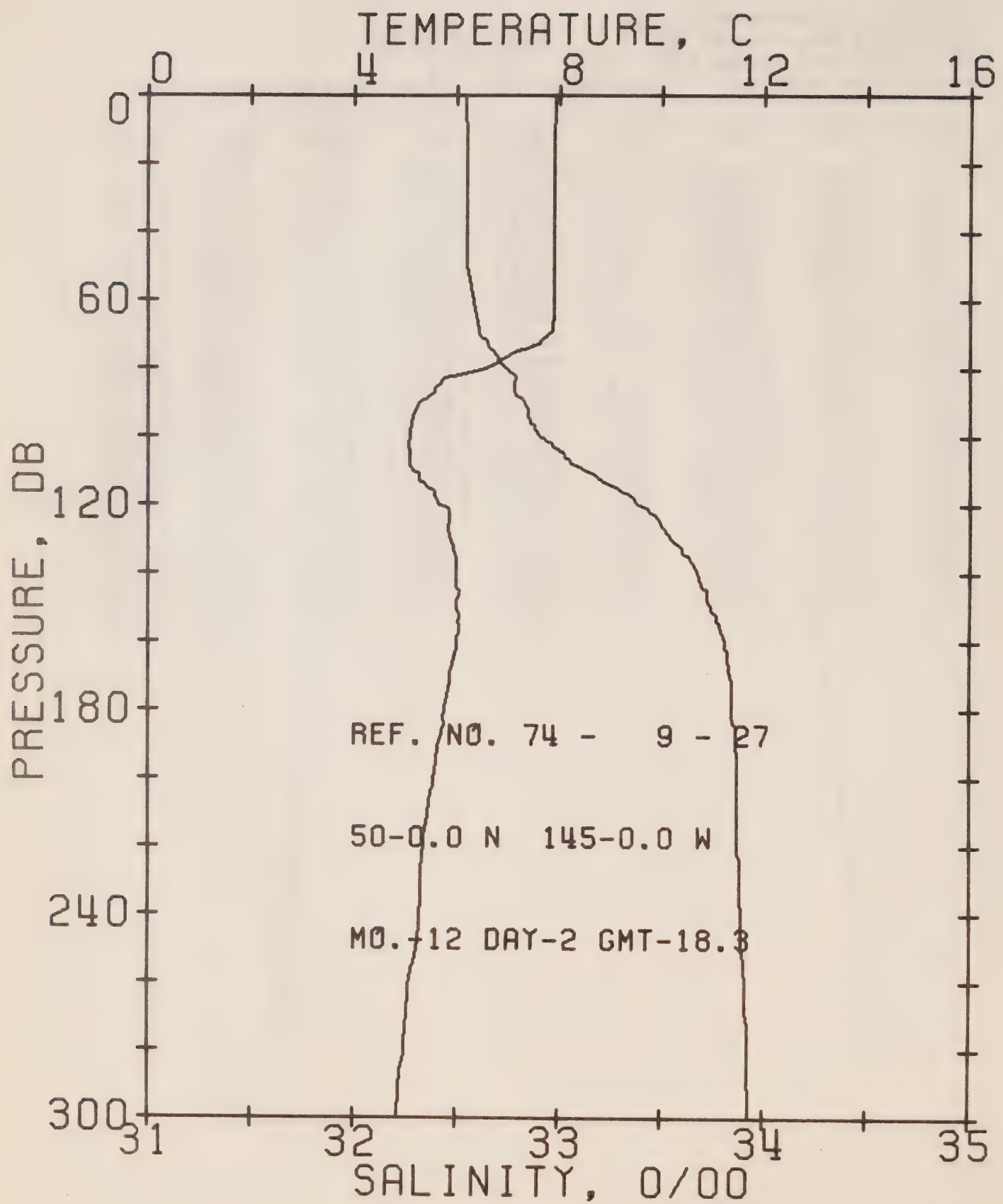
REFERENCE NO. 74- 9- 26

DATE 2/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.4

RESULTS OF STP CAST 194 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.86	32.58	0	25.42	256.8	0.0	0.0	1479.
10	7.86	32.58	10	25.42	257.1	0.26	0.01	1479.
20	7.86	32.58	20	25.42	257.3	0.51	0.05	1480.
30	7.86	32.58	30	25.42	257.4	0.77	0.12	1480.
50	7.88	32.58	50	25.42	258.0	1.29	0.33	1480.
75	7.66	32.68	75	25.53	247.9	1.92	0.73	1480.
100	5.10	32.94	99	26.06	197.3	2.47	1.22	1470.
125	5.66	33.46	124	26.40	165.0	2.93	1.74	1474.
150	6.07	33.79	149	26.61	145.9	3.32	2.28	1476.
175	5.80	33.85	174	26.69	138.1	3.67	2.87	1476.
200	5.56	33.88	199	26.75	133.3	4.01	3.51	1475.
225	5.35	33.89	223	26.78	130.4	4.34	4.23	1475.
250	5.17	33.91	248	26.82	127.2	4.66	5.00	1474.
300	4.79	33.95	298	26.89	120.2	5.28	6.73	1474.
400	4.30	33.99	397	26.98	112.6	6.44	10.87	1473.
500	3.92	34.08	496	27.09	102.8	7.51	15.79	1473.
600	3.70	34.14	595	27.16	96.9	8.51	21.39	1474.
800	3.28	34.27	793	27.30	84.0	10.32	34.23	1476.
1000	2.93	34.37	990	27.41	74.0	11.90	48.72	1478.
1200	2.65	34.43	1188	27.49	67.7	13.32	64.59	1480.



OFFSHORE OCEANOGRAPHY GROUP

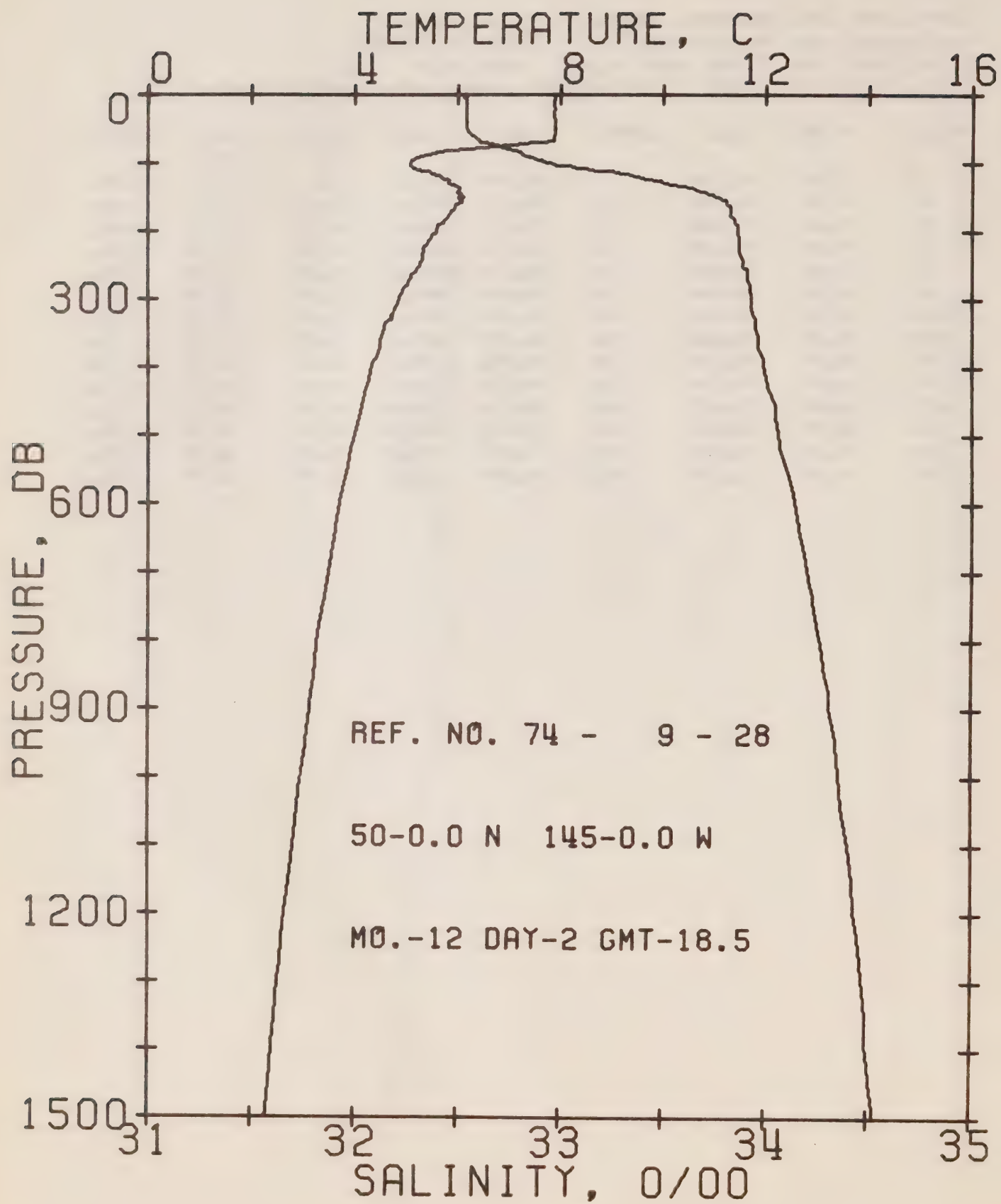
REFERENCE NO. 74- 9- 27

DATE 2/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.3

RESULTS OF STP CAST 139 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.93	32.54	0	25.38	260.7	0.0	0.0	1479.
10	7.91	32.55	10	25.39	260.1	0.26	0.01	1480.
20	7.90	32.55	20	25.39	260.0	0.52	0.05	1480.
30	7.90	32.55	30	25.39	260.2	0.78	0.12	1480.
50	7.89	32.55	50	25.39	260.4	1.30	0.33	1480.
75	7.11	32.68	75	25.60	240.6	1.94	0.74	1478.
100	5.09	32.91	99	26.04	199.5	2.48	1.22	1470.
125	5.86	33.49	124	26.40	165.1	2.93	1.73	1475.
150	6.01	33.74	149	26.58	148.5	3.32	2.28	1476.
175	5.83	33.84	174	26.68	139.2	3.68	2.87	1476.
200	5.54	33.87	199	26.74	133.8	4.02	3.52	1475.
225	5.33	33.98	223	26.77	130.9	4.35	4.24	1475.
250	5.22	33.89	248	26.80	129.2	4.68	5.03	1475.
300	4.84	33.93	298	26.87	122.3	5.30	6.78	1474.



OFFSHORE OCEANOGRAPHY GROUP

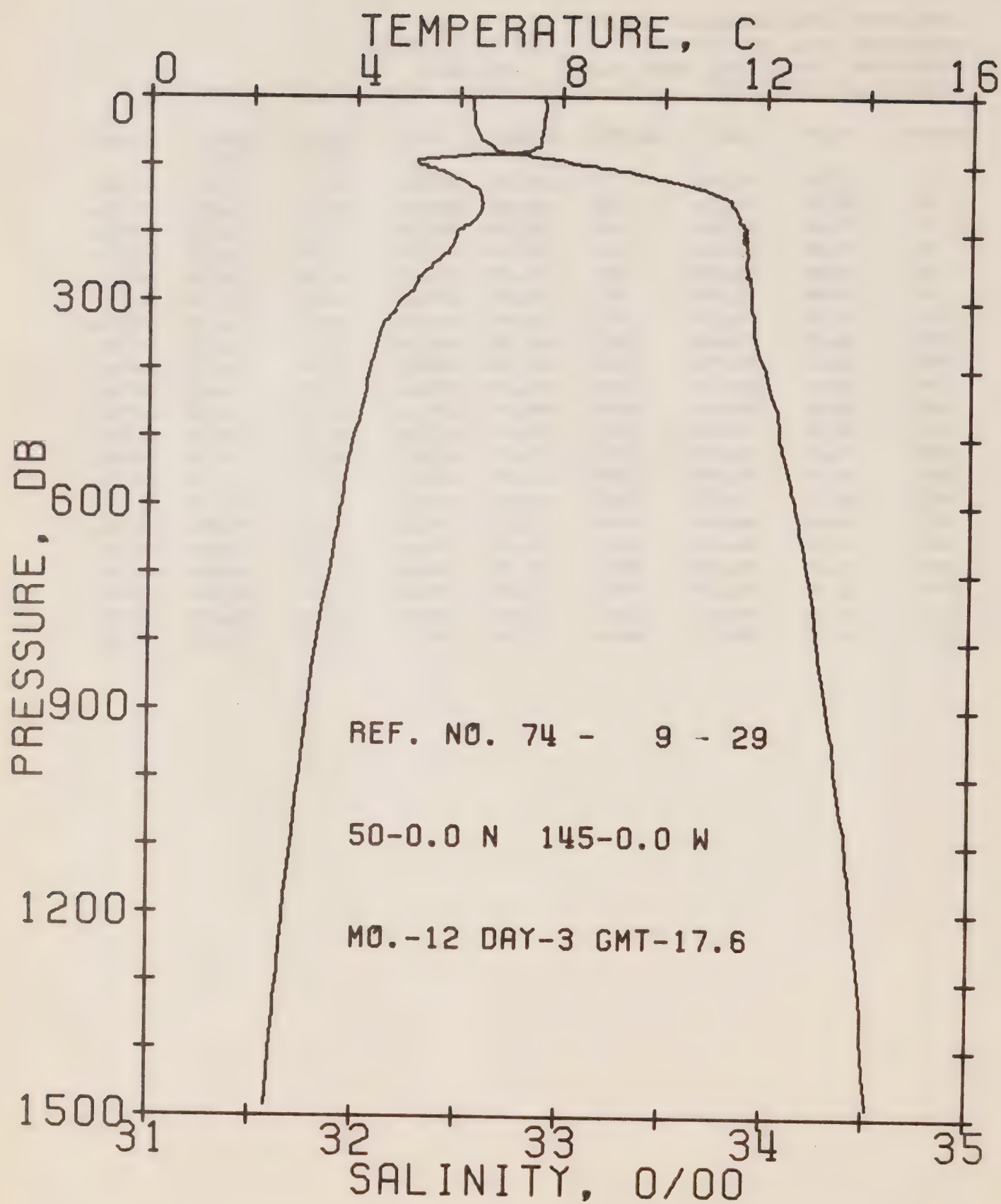
REFERENCE NO. 74- 9- 28

DATE 2/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 18.5

RESULTS OF STP CAST 193 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.90	32.54	0	25.38	260.3	0.0	0.0	1479.
10	7.88	32.54	10	25.39	260.3	0.26	0.01	1479.
20	7.89	32.54	20	25.38	260.6	0.52	0.05	1480.
30	7.88	32.54	30	25.39	260.6	0.78	0.12	1480.
50	7.90	32.54	50	25.38	261.3	1.30	0.33	1480.
75	6.88	32.70	75	25.65	236.2	1.94	0.74	1477.
100	5.08	32.94	99	26.06	197.4	2.47	1.21	1470.
125	5.85	33.46	124	26.38	167.2	2.92	1.72	1474.
150	6.11	33.76	149	26.58	148.3	3.31	2.27	1476.
175	5.81	33.83	174	26.68	139.8	3.67	2.86	1476.
200	5.56	33.86	199	26.73	134.8	4.01	3.51	1475.
225	5.32	33.87	223	26.77	131.6	4.34	4.23	1474.
250	5.23	33.89	248	26.79	129.3	4.67	5.02	1475.
300	4.84	33.93	298	26.87	122.3	5.30	6.78	1474.
400	4.32	33.99	397	26.98	112.9	6.47	10.97	1473.
500	3.99	34.06	496	27.07	104.7	7.56	15.93	1474.
600	3.71	34.14	595	27.16	96.6	8.56	21.56	1474.
800	3.27	34.26	793	27.30	84.4	10.37	34.44	1476.
1000	2.94	34.35	990	27.40	75.4	11.97	49.01	1478.
1200	2.64	34.43	1188	27.49	67.5	13.39	64.96	1480.
1500	2.27	34.53	1484	27.60	57.7	15.26	90.64	1483.



OFFSHORE OCEANOGRAPHY GROUP

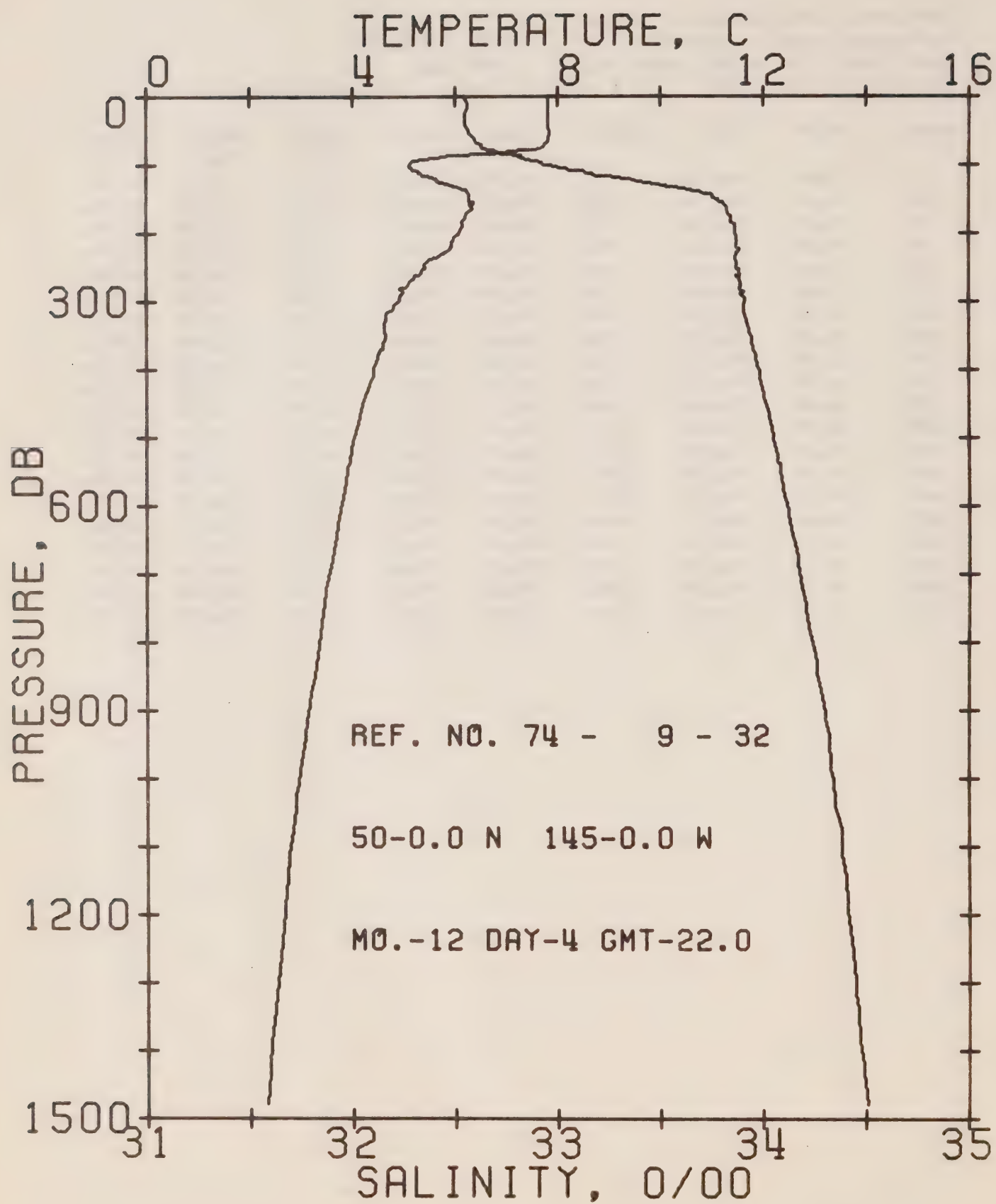
REFERENCE NO. 74- 9- 29

DATE 3/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.6

RESULTS OF STP CAST 213 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.66	32.56	0	25.43	255.5	0.0	0.0	1478.
10	7.67	32.56	10	25.43	256.0	0.26	0.01	1479.
20	7.67	32.56	20	25.44	255.7	0.51	0.05	1479.
30	7.64	32.57	30	25.44	255.2	0.77	0.12	1479.
50	7.61	32.58	50	25.46	254.1	1.28	0.33	1479.
75	7.47	32.66	75	25.54	246.5	1.90	0.72	1479.
100	5.31	33.14	99	26.19	184.6	2.44	1.20	1471.
125	6.15	33.58	124	26.44	161.9	2.87	1.69	1476.
150	6.44	33.81	149	26.58	148.4	3.26	2.23	1478.
175	6.34	33.87	174	26.64	143.6	3.62	2.84	1478.
200	5.95	33.89	199	26.71	137.1	3.97	3.50	1477.
225	5.79	33.90	223	26.74	134.7	4.31	4.24	1476.
250	5.46	33.90	248	26.77	131.2	4.64	5.04	1476.
300	4.85	33.93	298	26.87	122.4	5.27	6.81	1474.
400	4.27	34.00	397	26.99	111.9	6.45	10.99	1473.
500	3.96	34.07	496	27.08	103.9	7.52	15.92	1474.
600	3.73	34.15	595	27.16	96.4	8.53	21.53	1474.
800	3.26	34.26	793	27.29	84.8	10.33	34.36	1476.
1000	2.94	34.36	990	27.40	75.3	11.93	48.96	1478.
1200	2.65	34.44	1188	27.49	67.1	13.34	64.83	1480.



OFFSHORE OCEANOGRAPHY GROUP

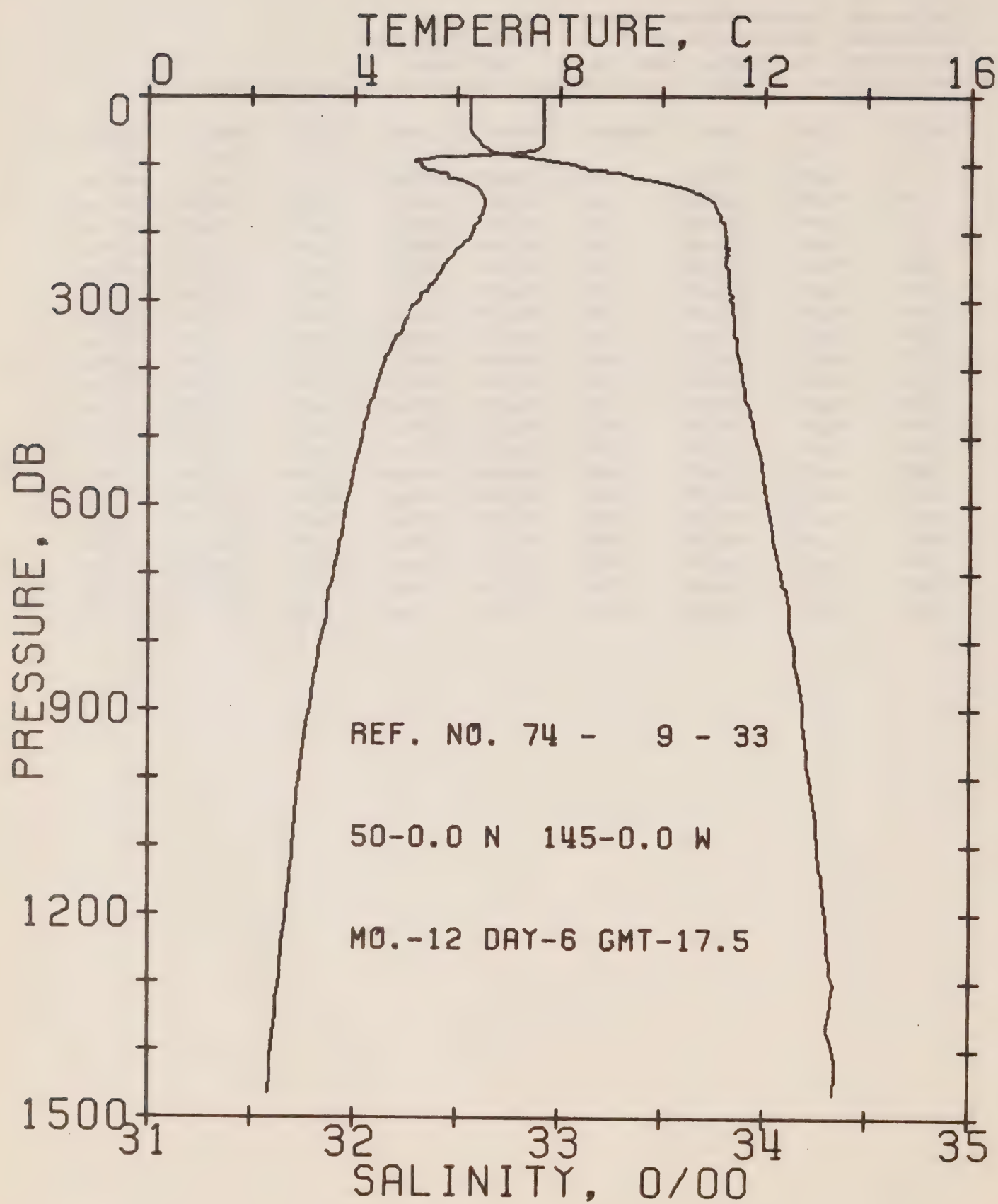
REFERENCE NO. 74- 9- 32

DATE 4/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 22.0

RESULTS OF STP CAST 236 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.81	32.55	0	25.40	258.3	0.0	0.0	1479.
10	7.81	32.56	10	25.41	258.1	0.26	0.01	1479.
20	7.81	32.56	20	25.41	258.4	0.52	0.05	1479.
30	7.81	32.55	30	25.40	259.0	0.78	0.12	1479.
50	7.83	32.56	50	25.41	258.8	1.29	0.33	1480.
75	7.67	32.63	75	25.49	251.4	1.93	0.74	1480.
100	5.10	32.96	99	26.07	195.8	2.48	1.22	1470.
125	5.67	33.42	124	26.37	168.1	2.94	1.74	1474.
150	6.26	33.78	149	26.58	148.7	3.33	2.29	1477.
175	6.18	33.84	174	26.64	143.5	3.69	2.90	1477.
200	6.06	33.86	199	26.67	140.9	4.05	3.58	1477.
225	5.84	33.88	223	26.71	137.0	4.40	4.33	1477.
250	5.40	33.87	248	26.76	132.8	4.73	5.15	1475.
300	4.88	33.91	298	26.85	124.2	5.38	6.94	1474.
400	4.41	33.98	397	26.95	115.0	6.57	11.21	1474.
500	4.02	34.05	496	27.05	106.1	7.68	16.27	1474.
600	3.77	34.12	595	27.13	99.3	8.71	22.03	1474.
800	3.33	34.24	793	27.27	86.9	10.57	35.25	1476.
1000	2.94	34.34	990	27.39	76.6	12.19	50.14	1478.
1200	2.65	34.41	1188	27.47	69.1	13.64	66.36	1480.



OFFSHORE OCEANOGRAPHY GROUP

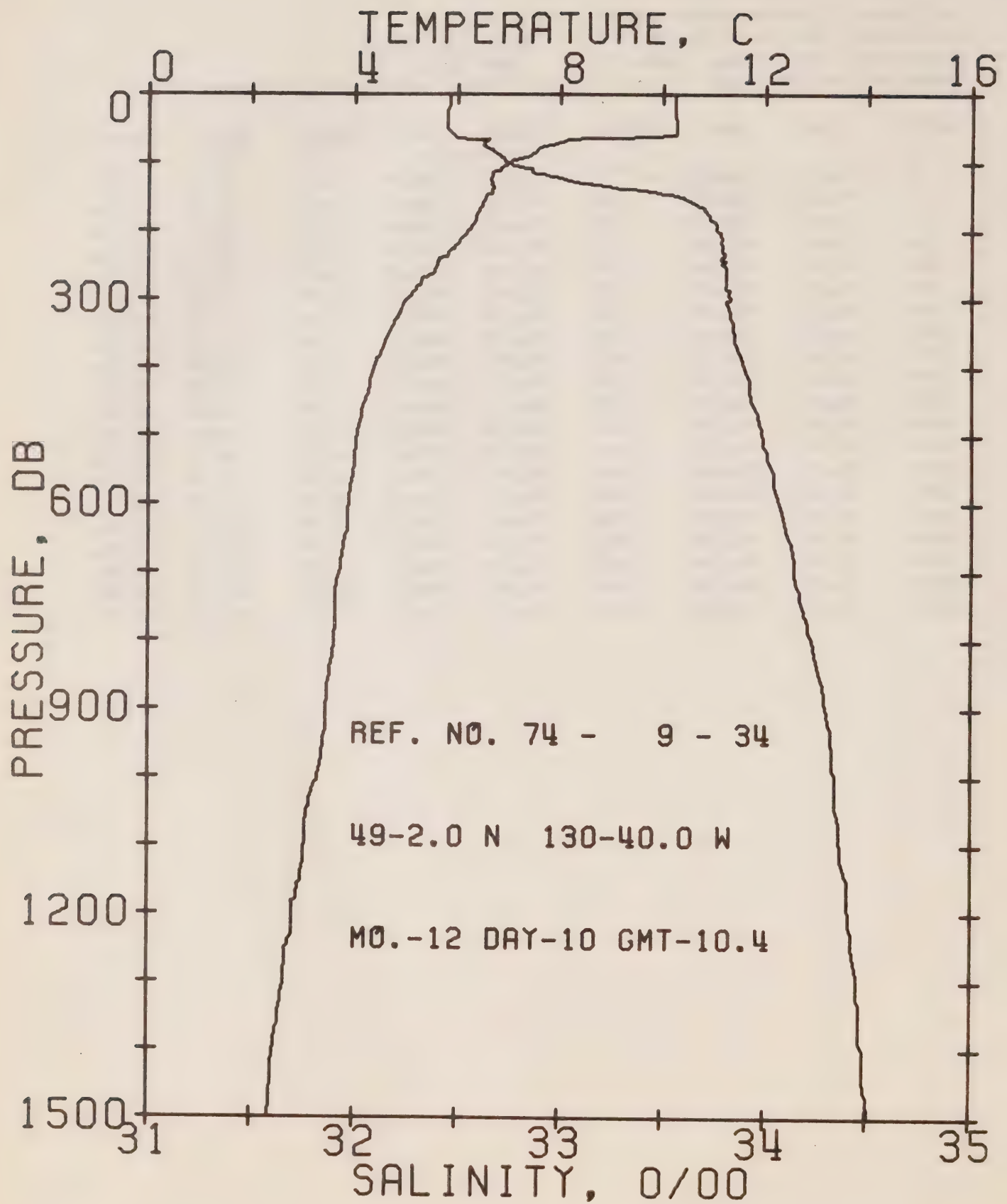
REFERENCE NO. 74- 9- 33

DATE 6/12/74

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 239 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.68	32.56	0	25.43	255.8	0.0	0.0	1479.
10	7.69	32.56	10	25.43	256.3	0.26	0.01	1479.
20	7.69	32.56	20	25.43	256.4	0.51	0.05	1479.
30	7.68	32.56	30	25.43	256.4	0.77	0.12	1479.
50	7.69	32.56	50	25.43	256.9	1.28	0.33	1479.
75	7.61	32.65	75	25.51	249.5	1.92	0.73	1480.
100	5.29	33.07	99	26.14	189.7	2.46	1.22	1471.
125	6.17	33.49	124	26.36	168.9	2.91	1.73	1476.
150	6.53	33.72	149	26.50	156.3	3.32	2.30	1478.
175	6.45	33.78	174	26.56	151.4	3.70	2.93	1478.
200	6.27	33.90	199	26.60	147.9	4.08	3.65	1478.
225	5.94	33.92	223	26.65	142.7	4.44	4.44	1477.
250	5.71	33.81	248	26.67	140.9	4.80	5.30	1476.
300	5.26	33.83	298	26.74	134.6	5.48	7.22	1475.
400	4.52	33.88	397	26.87	123.3	6.77	11.79	1474.
500	4.16	33.95	496	26.96	115.0	7.96	17.25	1474.
600	3.84	34.02	595	27.04	107.6	9.07	23.45	1475.
800	3.35	34.14	793	27.19	94.3	11.09	37.81	1476.
1000	2.93	34.22	990	27.30	85.0	12.87	54.18	1478.
1200	2.67	34.30	1188	27.38	77.7	14.50	72.40	1480.



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REFERENCE NO. 74- 9- 34

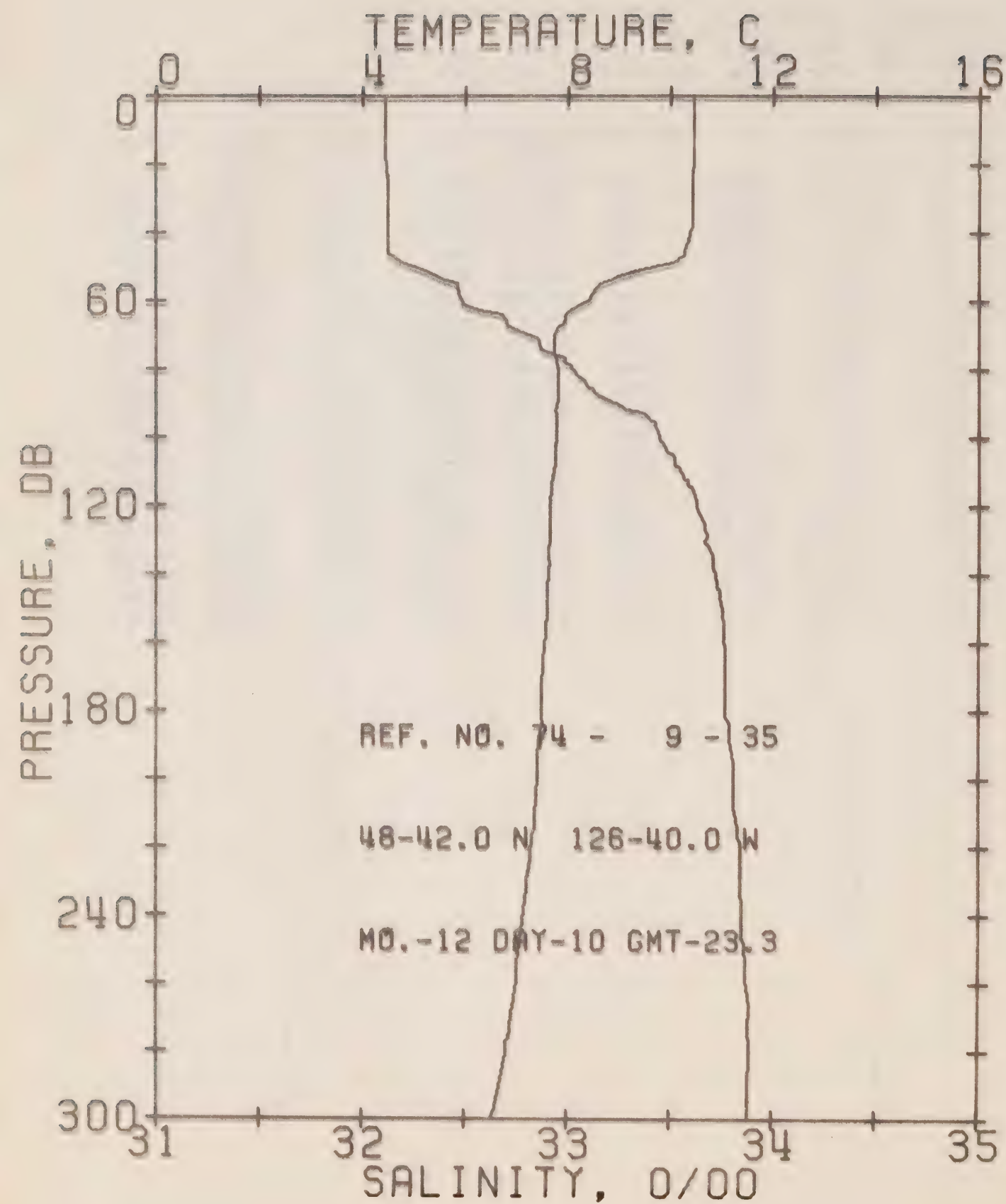
DATE 10/12/74

POSITION 49- 2.0N, 130-40.0W

GMT 10.4

RESULTS OF STP CAST 259 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.25	32.46	0	24.95	301.1	0.0	0.0	1488.
10	10.25	32.46	10	24.95	301.6	0.30	0.02	1488.
20	10.25	32.46	20	24.95	302.0	0.60	0.06	1488.
30	10.25	32.45	30	24.95	302.7	0.91	0.14	1489.
50	10.26	32.45	50	24.94	303.2	1.51	0.39	1489.
75	7.71	32.63	75	25.48	252.3	2.21	0.83	1480.
100	6.99	32.75	99	25.67	234.1	2.82	1.37	1478.
125	6.64	33.04	124	25.95	208.3	3.37	2.00	1477.
150	6.54	33.60	149	26.40	165.6	3.84	2.66	1478.
175	6.38	33.72	174	26.52	155.0	4.24	3.32	1478.
200	6.19	33.77	199	26.59	148.9	4.62	4.05	1477.
225	5.92	33.79	223	26.63	144.7	4.99	4.84	1477.
250	5.59	33.79	248	26.68	140.7	5.35	5.70	1476.
300	5.02	33.83	298	26.77	131.8	6.03	7.61	1474.
400	4.38	33.90	397	26.90	120.6	7.30	12.13	1473.
500	4.03	33.98	496	27.00	111.2	8.45	17.43	1474.
600	3.89	34.07	595	27.08	104.2	9.53	23.47	1475.
800	3.59	34.23	793	27.24	90.4	11.48	37.30	1477.
1000	3.29	34.34	991	27.36	80.3	13.18	52.86	1479.
1200	2.80	34.41	1188	27.45	71.2	14.69	69.80	1481.



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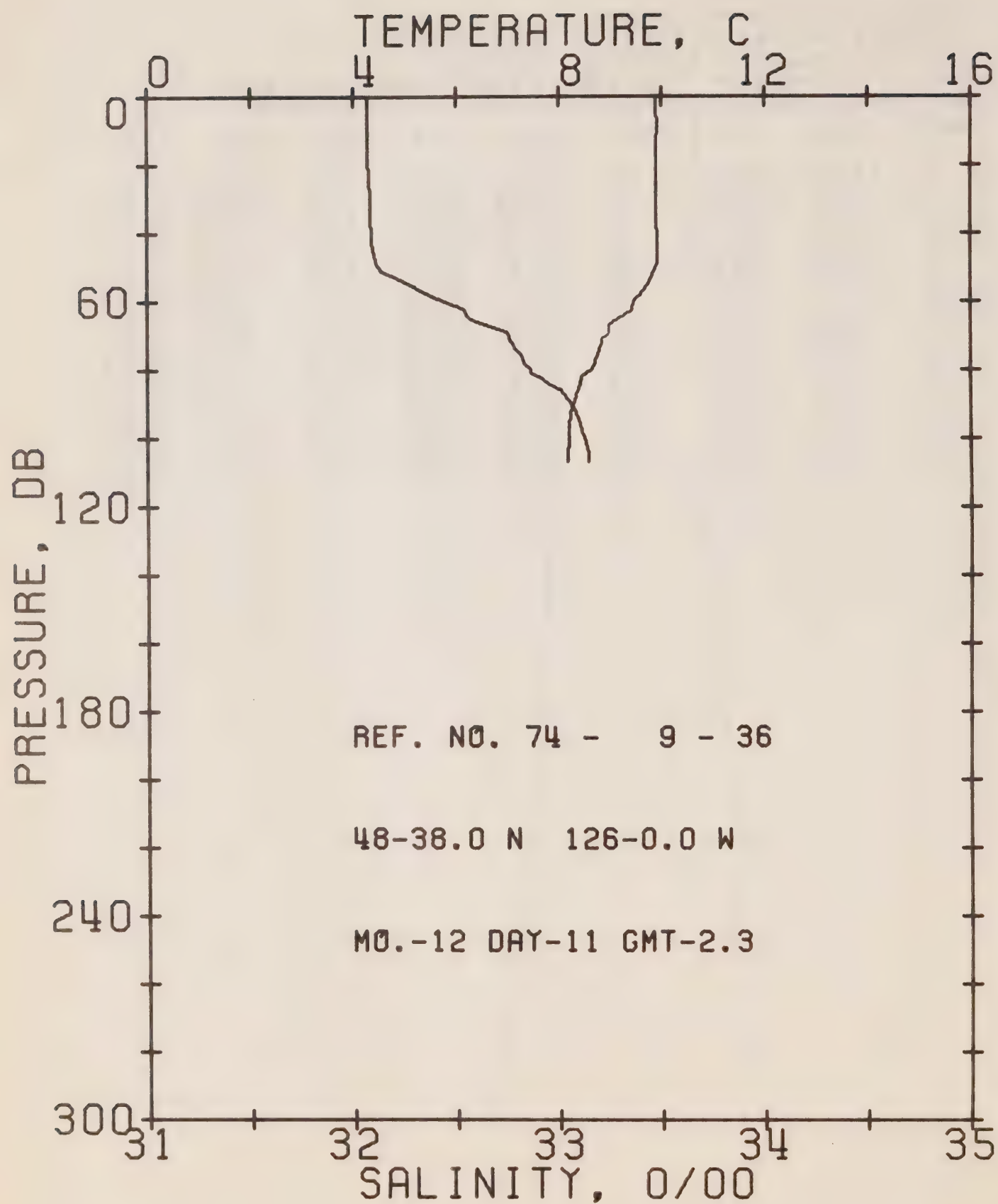
REFERENCE NO. 74- 9- 35

DATE 10/12/74

POSITION 48-42.0N, 126-40.0W GMT 23.3

RESULTS OF STP CAST 142 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.46	32.11	0	24.65	330.5	0.0	0.0	1488.
10	10.45	32.11	10	24.65	330.8	0.33	0.02	1489.
20	10.45	32.11	20	24.65	330.5	0.66	0.07	1489.
30	10.44	32.12	30	24.66	330.2	0.99	0.15	1489.
50	9.73	32.24	50	24.87	310.4	1.65	0.42	1487.
75	7.74	32.91	75	25.70	231.8	2.30	0.83	1480.
100	7.79	33.45	99	26.11	192.8	2.83	1.30	1482.
125	7.65	33.67	124	26.30	174.9	3.29	1.83	1482.
150	7.60	33.75	149	26.37	168.9	3.72	2.43	1482.
175	7.49	33.77	174	26.41	166.0	4.14	3.12	1482.
200	7.41	33.81	199	26.45	162.2	4.55	3.91	1482.
225	7.25	33.84	223	26.50	158.2	4.95	4.77	1482.
250	7.04	33.86	248	26.54	154.3	5.34	5.72	1482.
300	6.52	33.88	298	26.63	146.5	6.09	7.83	1481.



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REFERENCE NO. 74- 9- 36

DATE 11/12/74

POSITION 48-38.0N, 126- 0.0W GMT 2.3

RESULTS OF STD CAST 50 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	9.89	32.07	0	24.71	324.4	0.0	0.0	1486.
10	9.91	32.07	10	24.71	325.1	0.32	0.02	1486.
20	9.90	32.07	20	24.71	325.0	0.65	0.07	1487.
30	9.90	32.08	30	24.72	324.5	0.97	0.15	1487.
50	9.88	32.12	50	24.75	321.6	1.62	0.41	1487.
75	8.76	32.81	75	25.47	253.8	2.34	0.86	1484.
100	8.18	33.12	99	25.80	222.8	2.92	1.39	1483.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	9.89	32.07	65.	9.13	32.57
5.	9.89	32.07	66.	9.05	32.60
6.	9.91	32.07	67.	8.97	32.64
10.	9.91	32.07	69.	8.95	32.74
12.	9.90	32.07	70.	8.93	32.75
15.	9.90	32.07	71.	8.84	32.75
16.	9.90	32.07	72.	8.82	32.77
18.	9.90	32.07	74.	8.78	32.79
20.	9.90	32.08	75.	8.76	32.81
31.	9.90	32.08	77.	8.70	32.82
34.	9.90	32.08	78.	8.70	32.83
43.	9.92	32.09	80.	8.62	32.86
47.	9.93	32.10	81.	8.53	32.86
48.	9.92	32.11	82.	8.44	32.90
49.	9.91	32.11	84.	8.40	32.95
50.	9.88	32.12	85.	8.38	32.99
51.	9.84	32.13	86.	8.34	33.01
52.	9.80	32.16	89.	8.28	33.04
53.	9.79	32.20	91.	8.24	33.07
54.	9.75	32.24	93.	8.22	33.08
58.	9.57	32.36	96.	8.19	33.10
60.	9.44	32.44	98.	8.18	33.11
62.	9.40	32.53	100.	8.18	33.12
63.	9.38	32.54	105.	8.17	33.14
64.	9.24	32.55	107.	8.17	33.14

BATHYTHERMOGRAPH OBSERVATIONS

(P-74-9)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030/ 13-04-74

48° 34' N.

125° 30' W.

0030 = Time in GMT

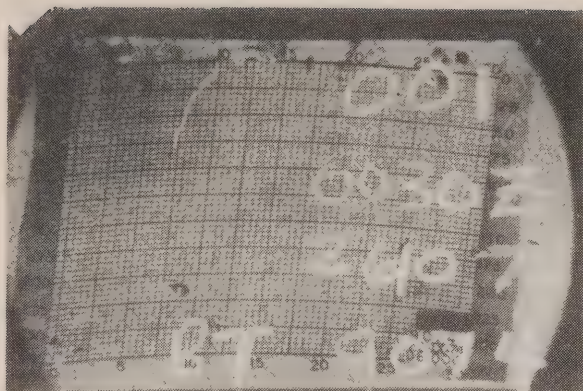
13 = Day

04 = Month

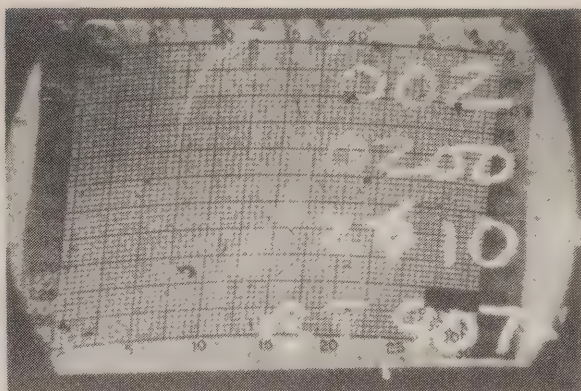
74 = Year

48° 34' N. = Latitude

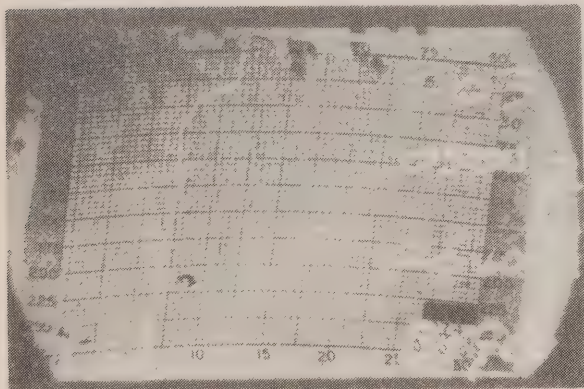
125° 30' W. = Longitude



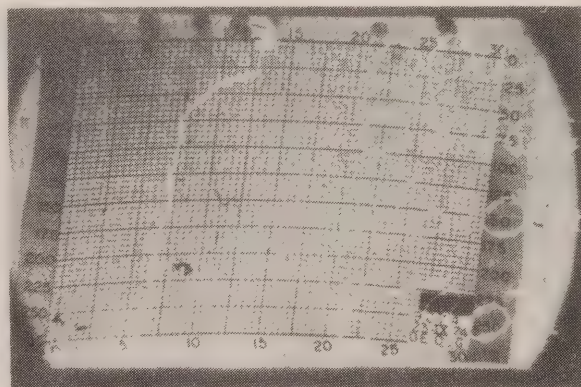
0030/ 26-10-74
 48° 33' N.
 125° 33' W.



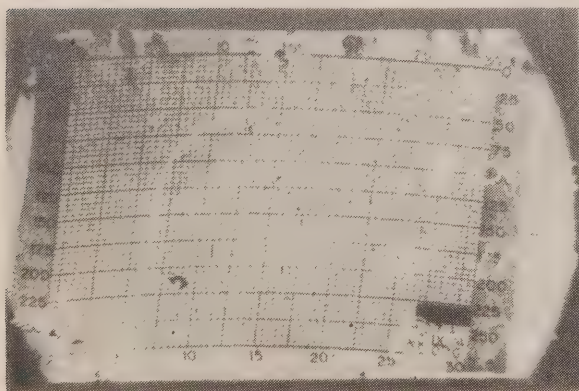
0200/ 26-10-74
 48° 38' N.
 126° 00' W.



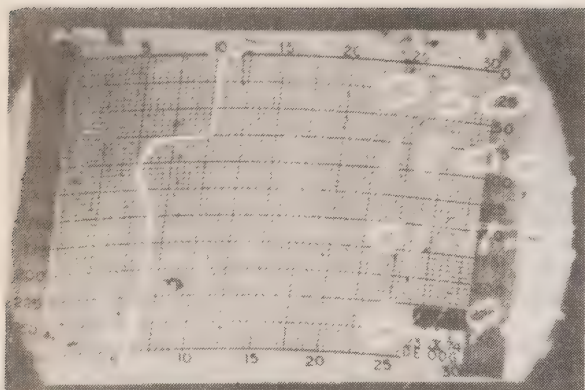
0500/ 26-10-74
 48° 42' N.
 126° 40' W.



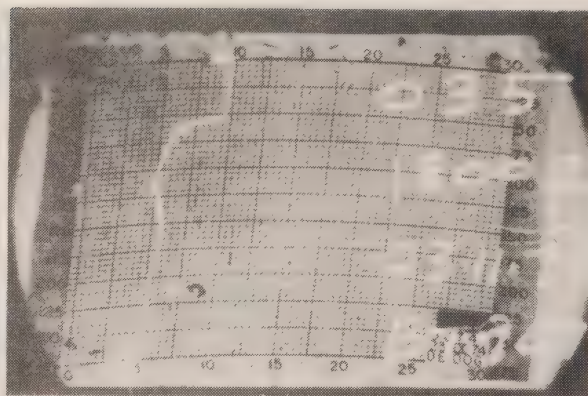
0840/ 26-10-74
 48° 46' N.
 127° 40' W.



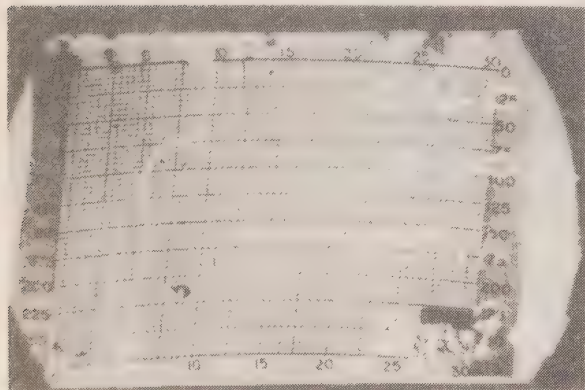
1800/ 26-10-74
 49° 02' N.
 130° 40' W.



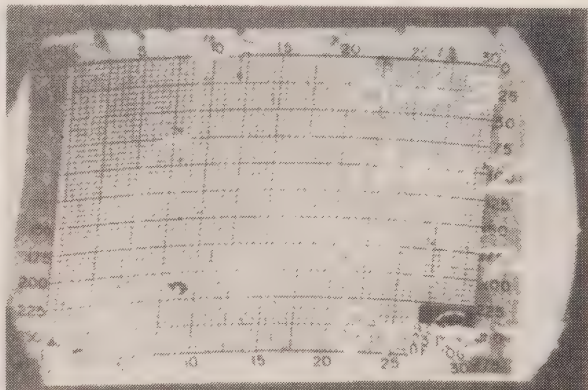
1800/ 01-11-74
 50° 00' N.
 145° 00' W.



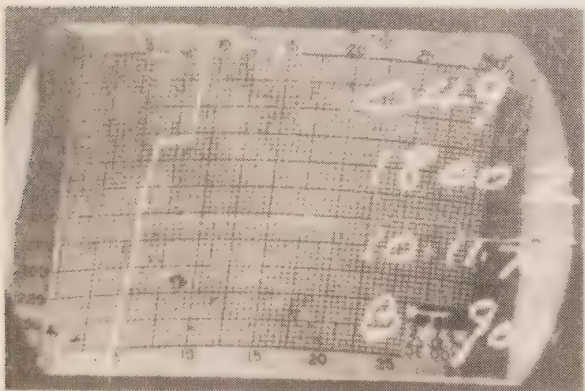
1800/ 03-11-74
 50° 04' N.
 145° 20' W.



1800/ 05-11-74
 49° 57' N.
 145° 15' W.



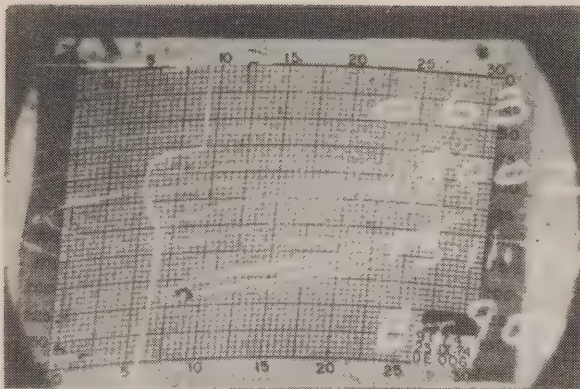
1800/ 07-11-74
 50° 05' N.
 145° 15' W.



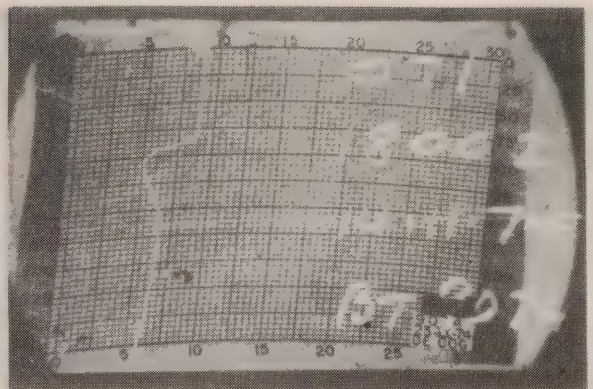
1800/ 10-11-74
 50° 04' N.
 145° 20' W.



1800/ 12-11-74
 50° 00' N.
 145° 00' W.



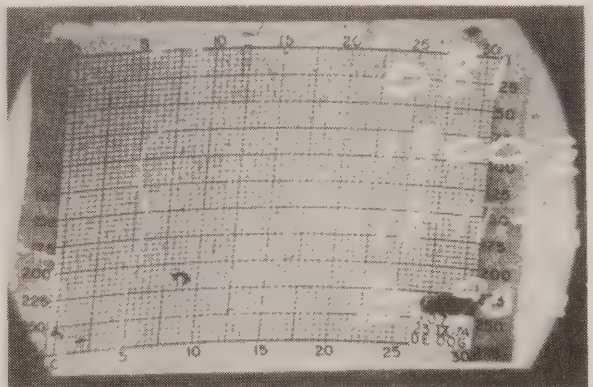
1800/ 13-11-74
 50° 00' N.
 145° 00' W.



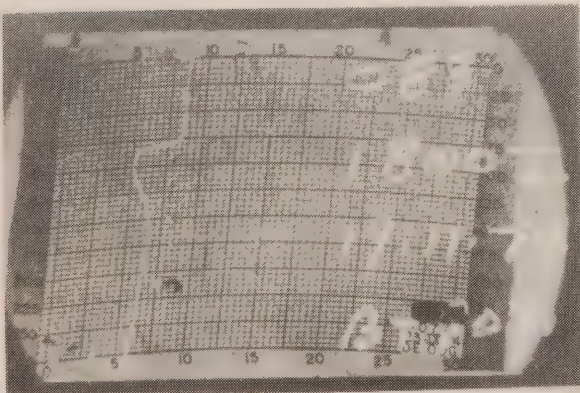
1800/ 14-11-74
 49° 55' N.
 145° 00' W.



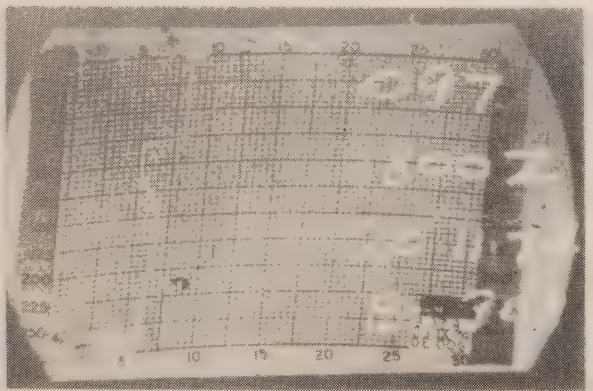
1800/ 15-11-74
 50° 05' N.
 145° 12' W.



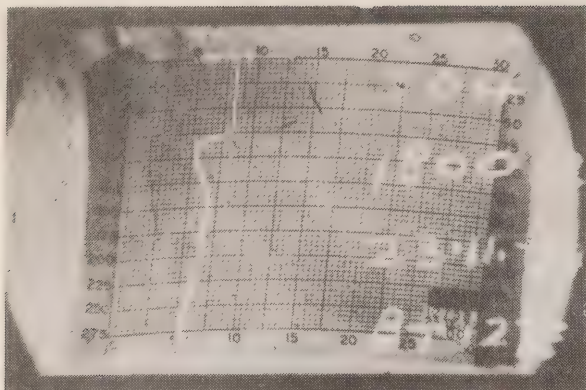
1800/ 18-11-74
 50° 05' N.
 145° 20' W.



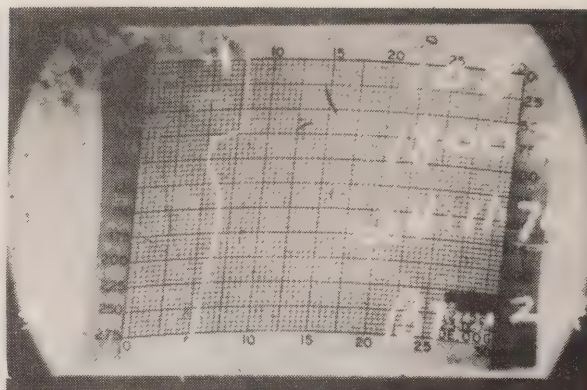
1800/ 19-11-74
 50° 00' N.
 145° 00' W.



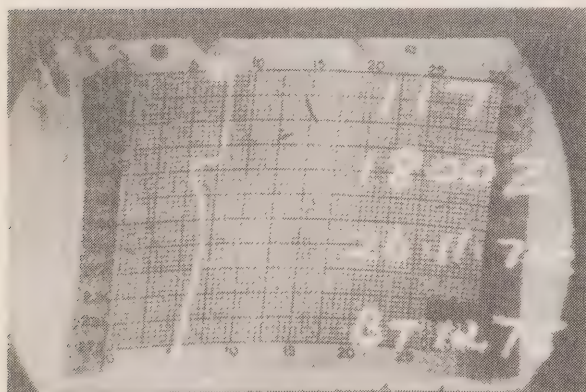
1800/ 20-11-74
 50° 00' N.
 145° 00' W.



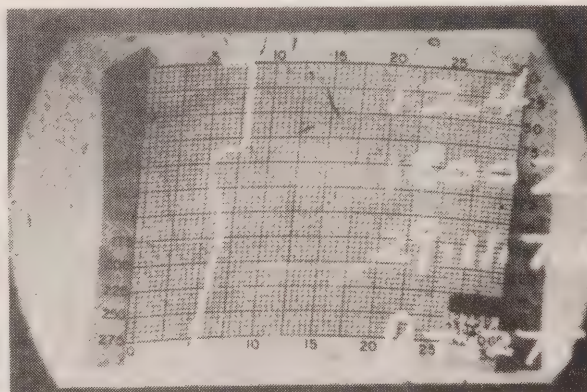
1800/ 23-11-74
 50° 00' N.
 145° 00' W.



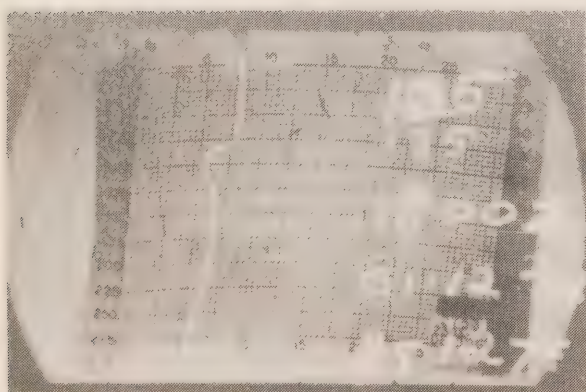
1800/ 24-11-74
 50° 00' N.
 145° 00' W.



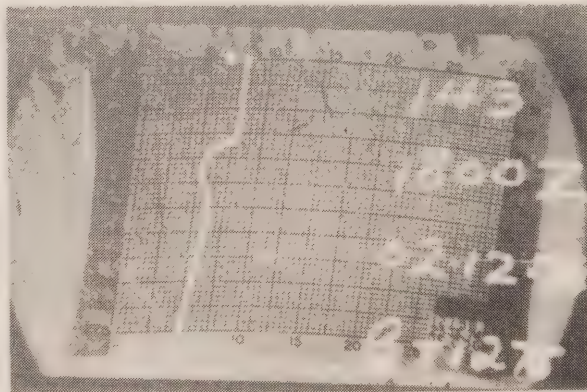
1800/ 26-11-74
 50° 00' N.
 145° 00' W.



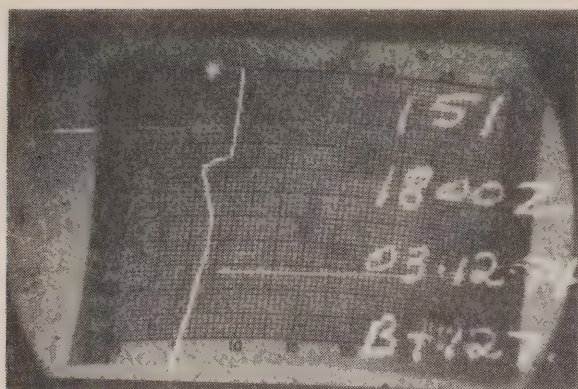
1800/ 29-11-74
 50° 00' N.
 145° 00' W.



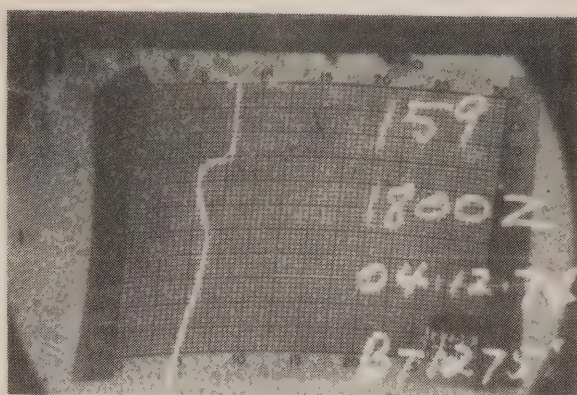
1800/ 01-12-74
 50° 00' N.
 145° 00' W.



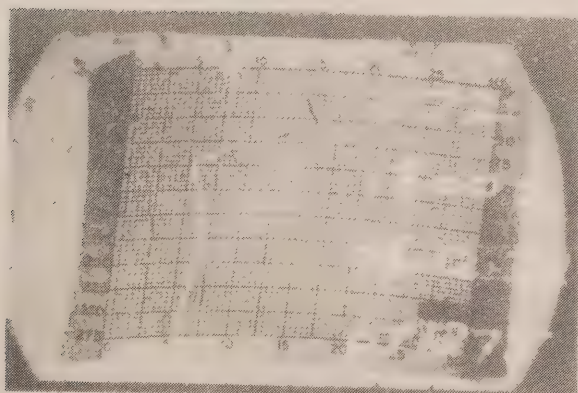
1800/ 02-12-74
 50° 03' N.
 144° 58' W.



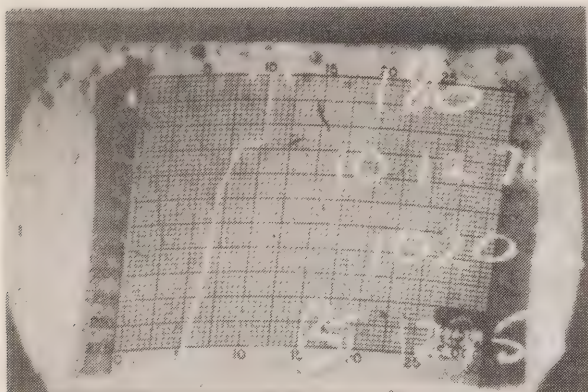
1800/ 03-12-74
 50° 00' N.
 145° 07' W.



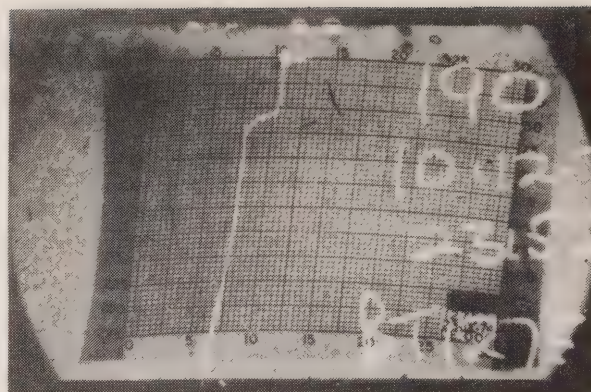
1800/ 04-12-74
 50° 05' N.
 144° 55' W.



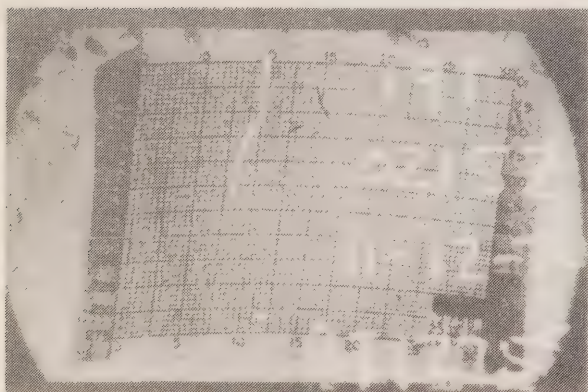
1800/ 06-12-74
 50° 00' N.
 144° 55' W.



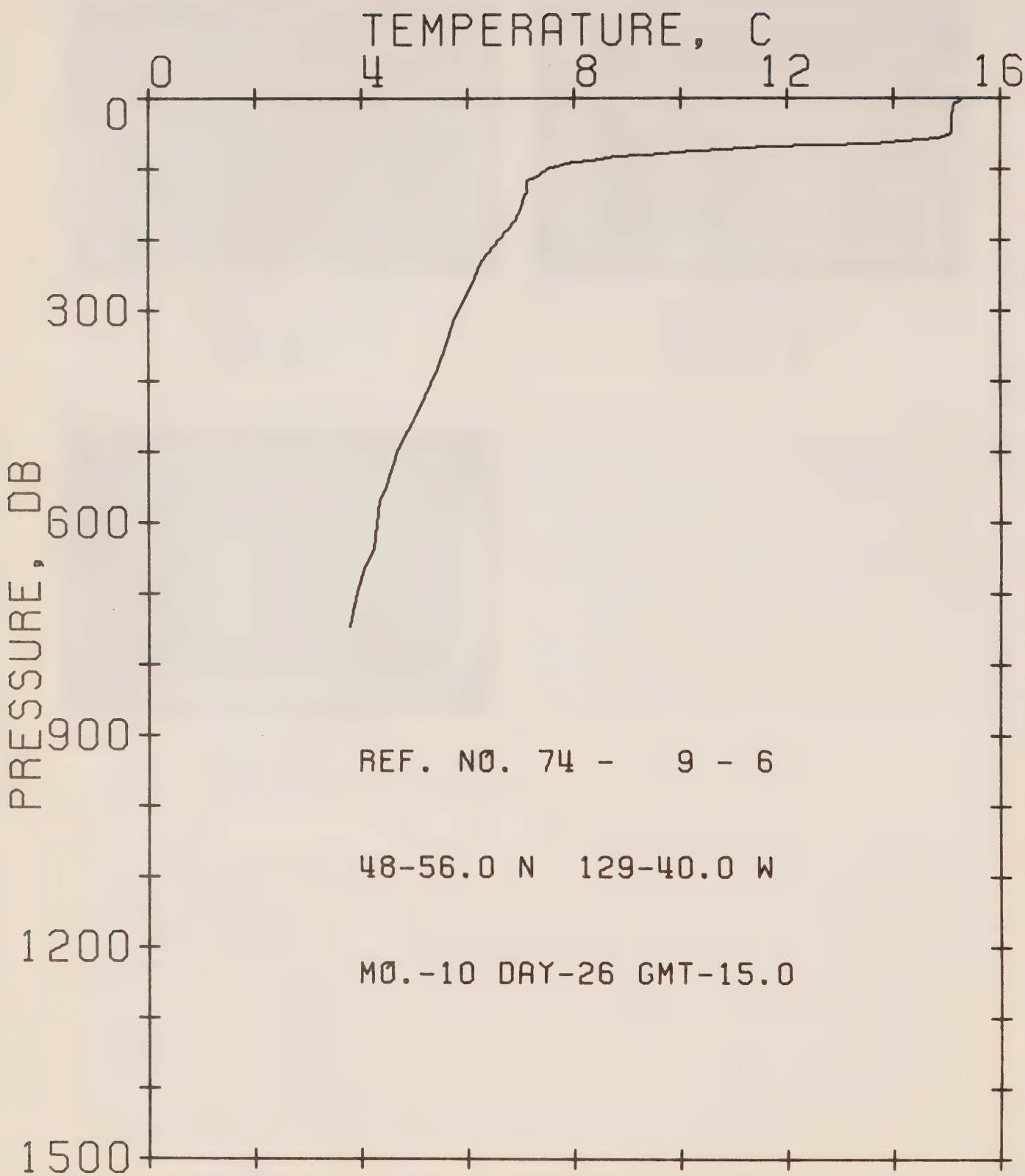
1020/ 10-12-74
 49° 02' N.
 130° 40' W.



2315/ 10-12-74
 48° 42' N.
 126° 40' W.



0215/ 11-12-74
 48° 38' N.
 126° 00' W.



OFFSHORE OCEANOGRAPHY

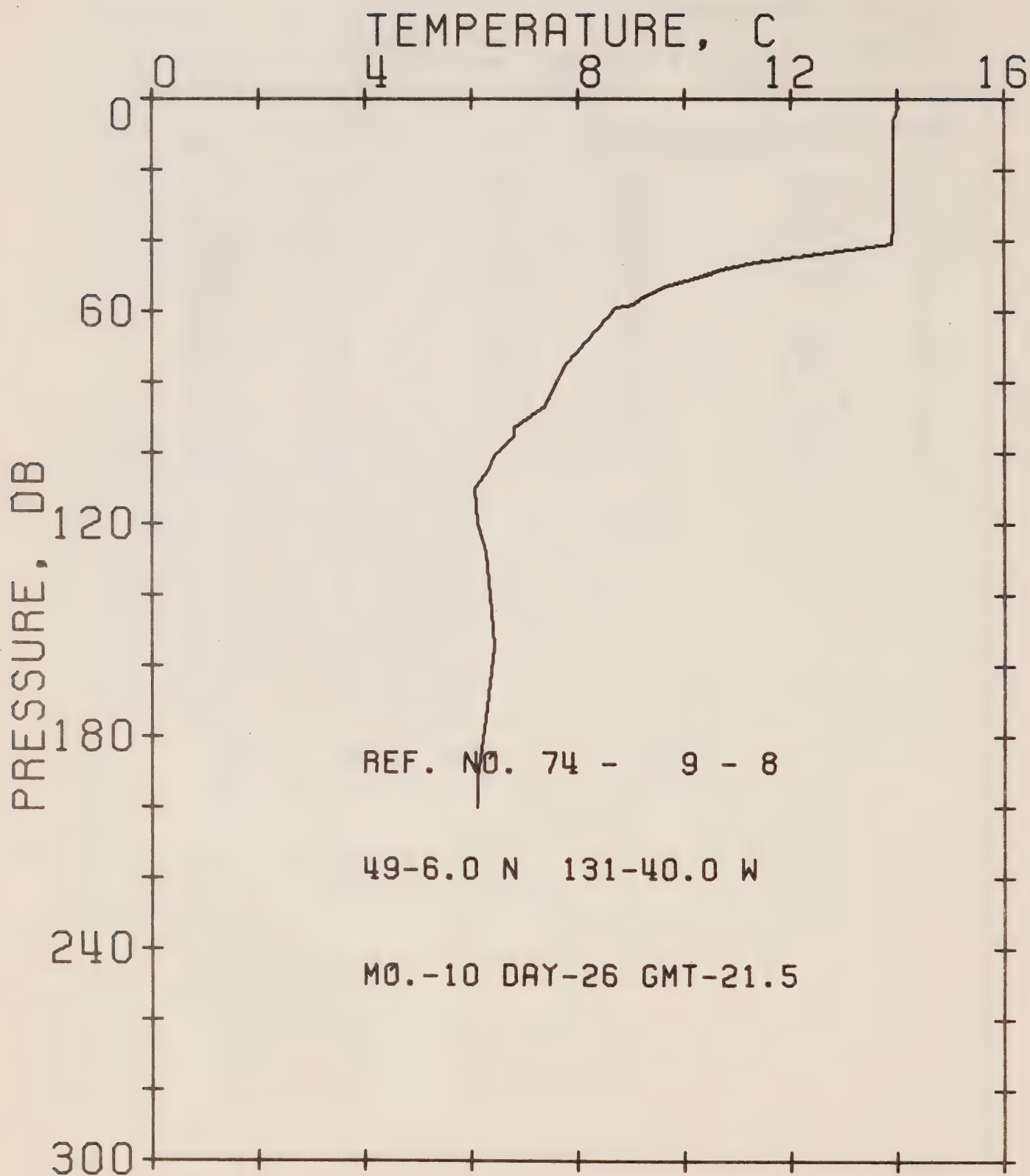
REFERENCE NO. 74- 9- 6

DATE 26/10/74

POSITION 48-05.6N 129-04.0W GMT 15.0

RESULTS OF XBT CAST 37 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	15.25	87	8.34	267	6.05
6	15.15	90	7.97	310	5.77
26	15.10	101	7.50	354	5.56
41	15.10	106	7.39	382	5.45
50	15.10	113	7.28	443	5.07
55	14.84	117	7.12	495	4.68
60	14.18	134	7.12	554	4.46
63	13.62	137	7.07	567	4.35
67	11.62	156	7.01	637	4.24
73	10.38	172	6.91	659	4.07
75	9.81	200	6.59	698	3.91
77	9.76	230	6.26	746	3.80
81	8.77				



OFFSHORE OCEANOGRAPHY

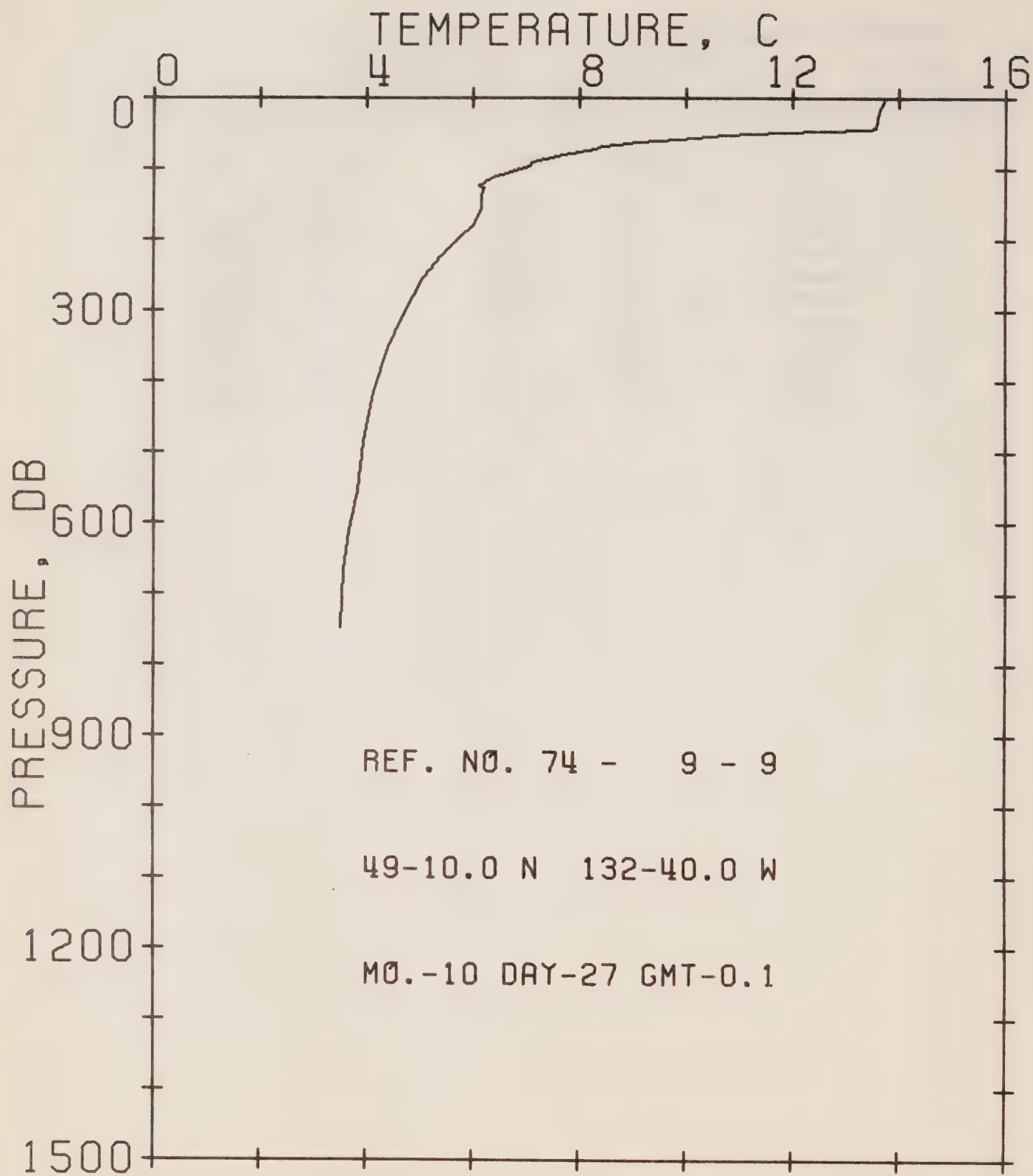
REFERENCE NO. 74- 9- 8

DATE 26/10/74

POSITION 49-00.6N 131-04.0W GMT 21.5

RESULTS OF XBT CAST 27 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	14.03	58	9.03	105	6.32
6	13.93	59	8.71	110	6.05
36	13.93	68	8.19	120	6.10
41	13.88	75	7.76	128	6.26
46	11.32	82	7.55	145	6.37
48	10.70	87	7.39	155	6.42
50	10.33	93	6.80	175	6.26
53	9.66	95	6.80	192	6.10
56	9.19	101	6.42	200	6.10



OFFSHORE OCEANOGRAPHY

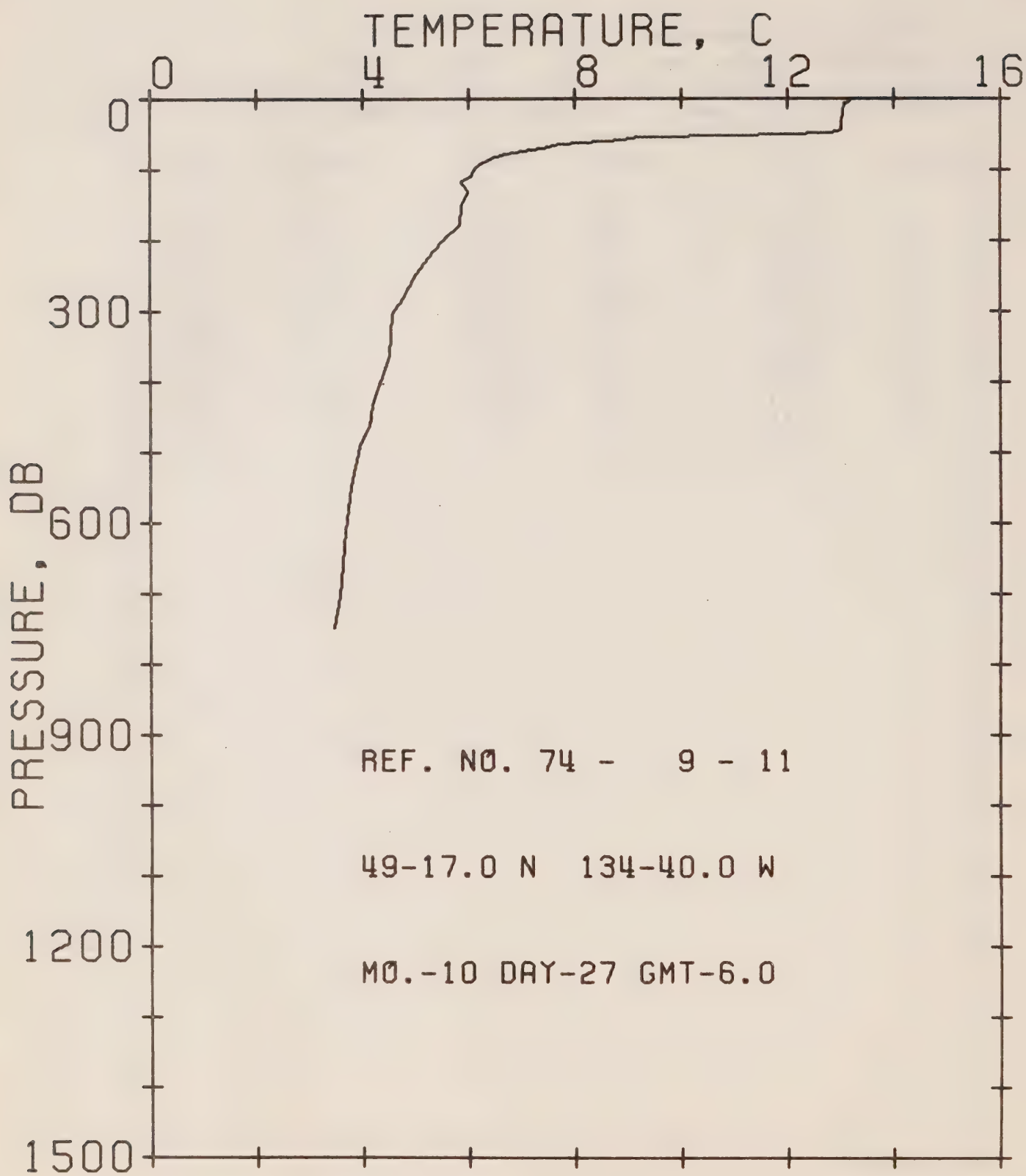
REFERENCE NO. 74- 9- 9

DATE 27/10/74

POSITION 49-01.0N 132-04.0W GMT 00.1

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	13.72	80	7.71	224	5.39
20	13.62	89	7.12	253	5.07
41	13.57	96	7.07	306	4.68
44	13.42	112	6.37	354	4.41
48	11.78	123	6.10	416	4.13
52	10.75	125	6.21	486	3.96
57	9.86	138	6.15	555	3.85
62	9.08	158	6.15	611	3.68
65	8.71	179	5.99	668	3.57
67	8.40	196	5.77	747	3.52
71	8.29				



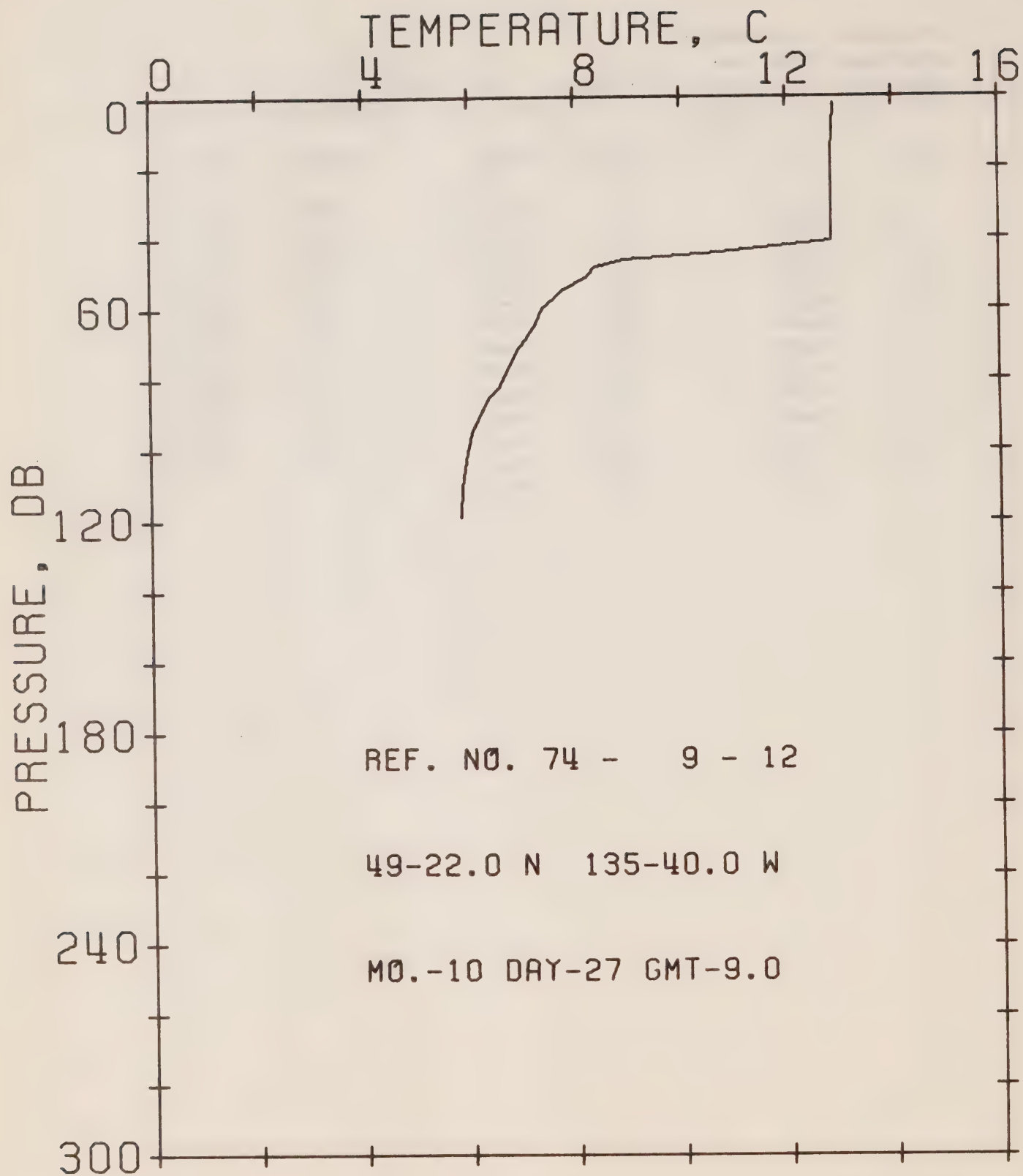
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9- 11 DATE 27/10/74

POSITION 49-01.7N 134-04.0W GMT 06.0

RESULTS OF XBT CAST 39 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	13.16	77	6.69	249	5.01
6	13.06	83	6.42	284	4.74
34	13.01	91	6.21	305	4.57
43	13.01	101	6.10	364	4.52
48	12.80	110	6.05	433	4.18
52	11.01	115	5.88	463	4.13
53	9.24	121	5.88	492	3.96
55	8.98	132	5.99	549	3.80
57	8.92	152	5.88	611	3.68
61	8.13	177	5.83	659	3.63
64	7.71	195	5.56	704	3.57
69	7.39	216	5.34	747	3.46
74	7.01	232	5.18		



OFFSHORE OCEANOGRAPHY

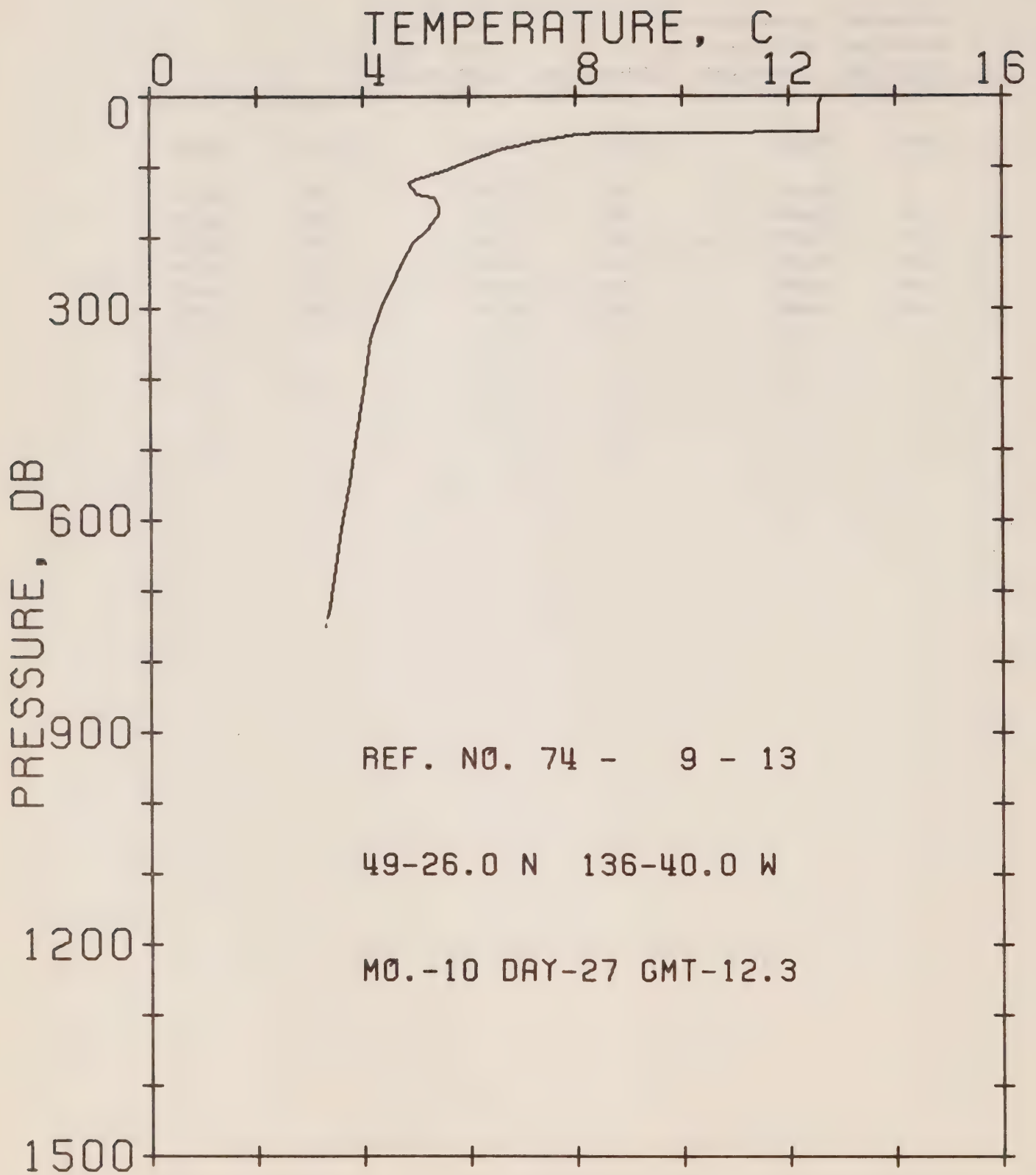
REFERENCE NO. 74- 9- 12

DATE 27/10/74

POSITION 49-02.2N 135-04.0W GMT 09.0

RESULTS OF XBT CAST 18 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	12.91	51	8.24	82	6.59
17	12.86	55	7.76	85	6.37
41	12.86	60	7.39	95	6.05
44	10.75	64	7.28	103	5.94
46	8.92	69	7.07	111	5.88
48	8.40	71	6.96	119	5.83



OFFSHORE OCEANOGRAPHY

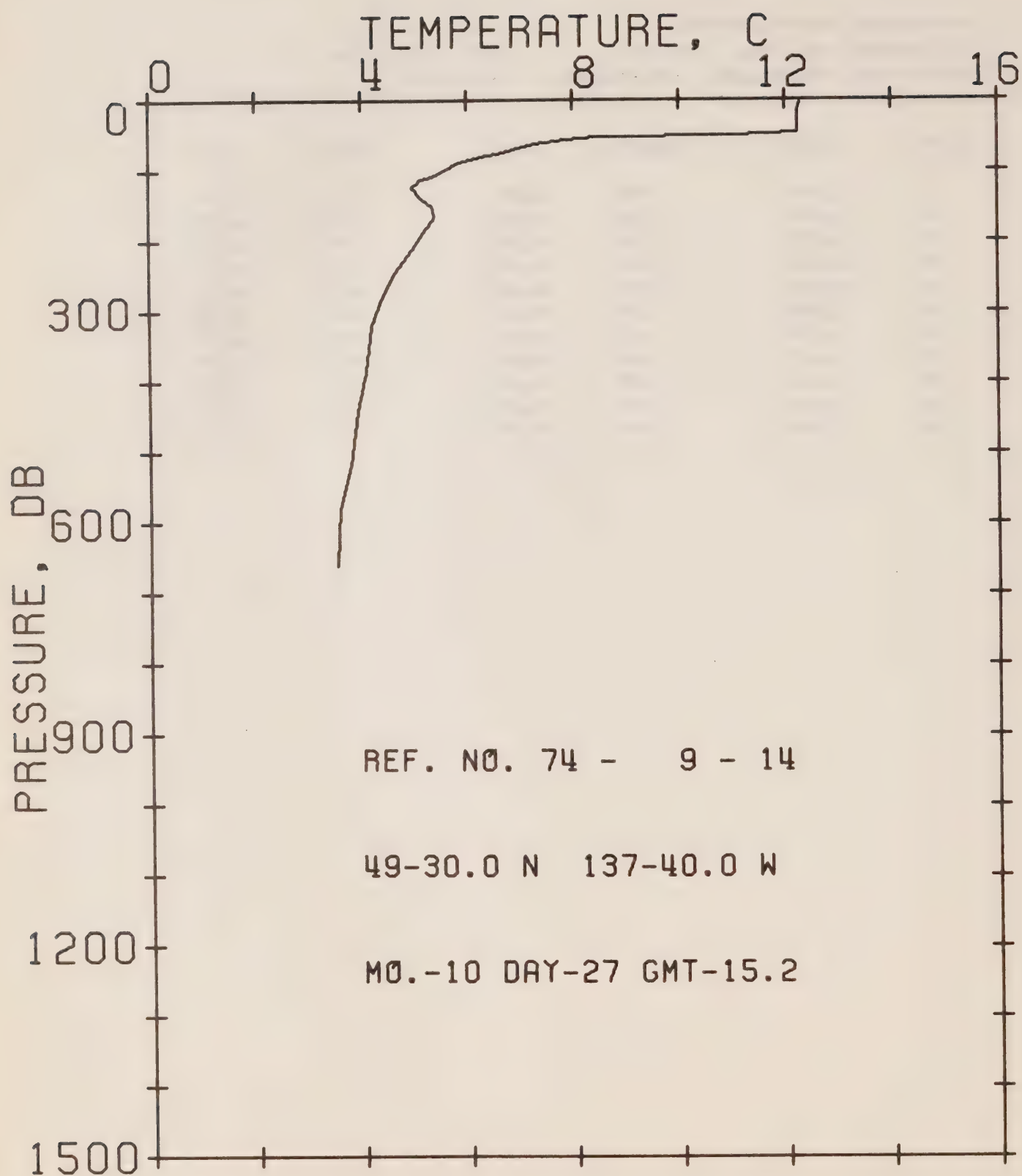
REFERENCE NO. 74- 9- 13

DATE 27/10/74

POSITION 49-02.6N 136-04.0W GMT 12.3

RESULTS OF XBT CAST 33 FCINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	12.60	104	5.56	234	4.74
9	12.55	113	5.23	266	4.57
50	12.55	115	5.01	299	4.35
51	10.13	122	4.85	344	4.13
52	8.50	131	4.96	403	4.02
54	8.03	137	5.01	492	3.85
59	7.55	142	5.34	548	3.74
65	7.12	156	5.45	612	3.57
69	6.91	167	5.45	668	3.46
74	6.64	187	5.23	722	3.35
88	6.10	207	4.96	749	3.29



OFFSHORE OCEANOGRAPHY

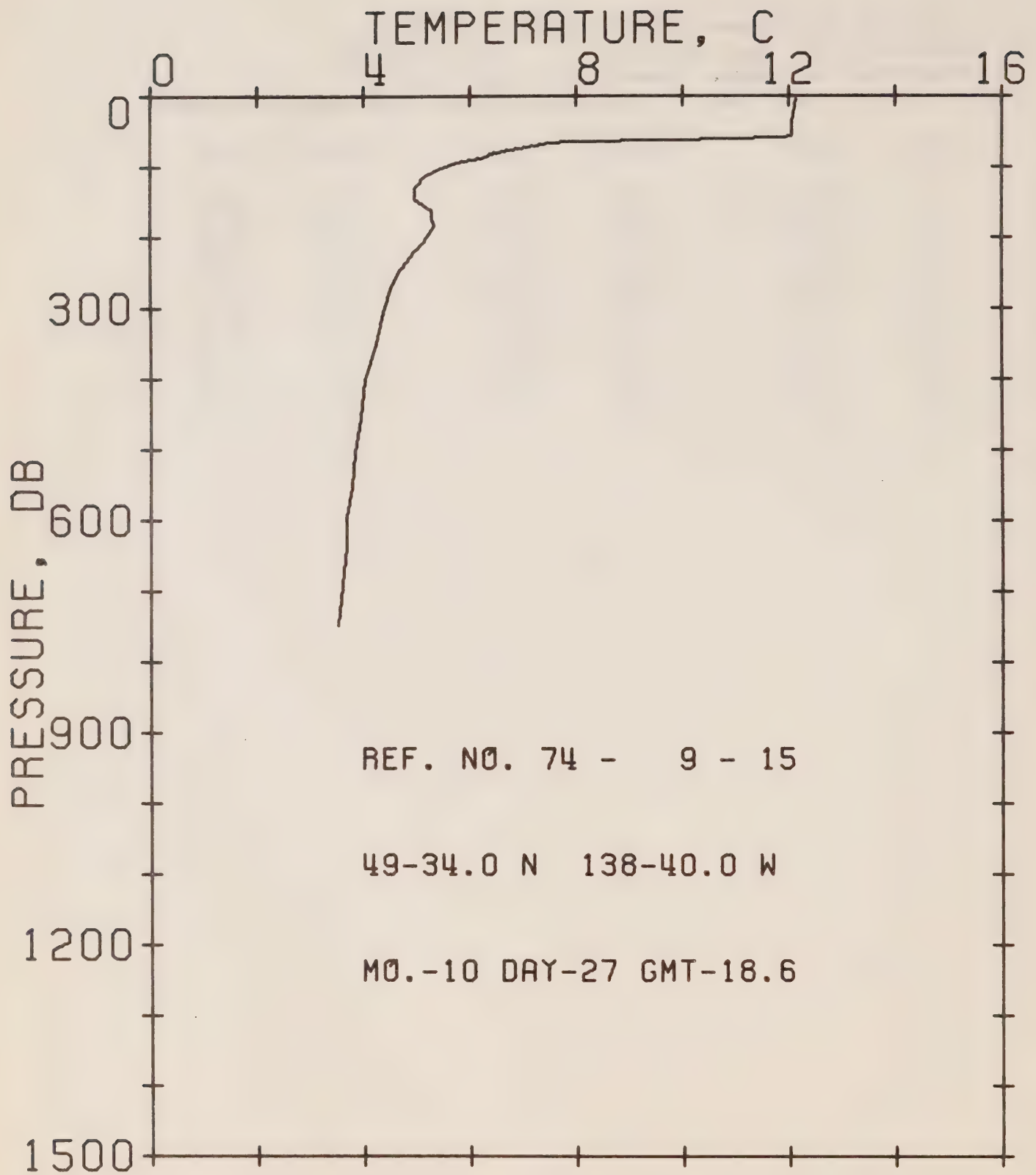
REFERENCE NO. 74- 9- 14

DATE 27/10/74

POSITION 49-03.0N 137-04.0W GMT 15.2

RESULTS OF XBT CAST 28 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	12.29	87	5.83	211	4.96
16	12.24	99	5.56	243	4.63
46	12.24	108	5.34	277	4.41
49	11.01	112	5.12	321	4.18
52	8.45	124	4.96	385	4.07
56	7.87	138	5.12	441	3.91
61	7.28	151	5.34	518	3.80
67	6.96	165	5.39	579	3.57
73	6.69	187	5.18	659	3.52
80	6.26				



OFFSHORE OCEANOGRAPHY

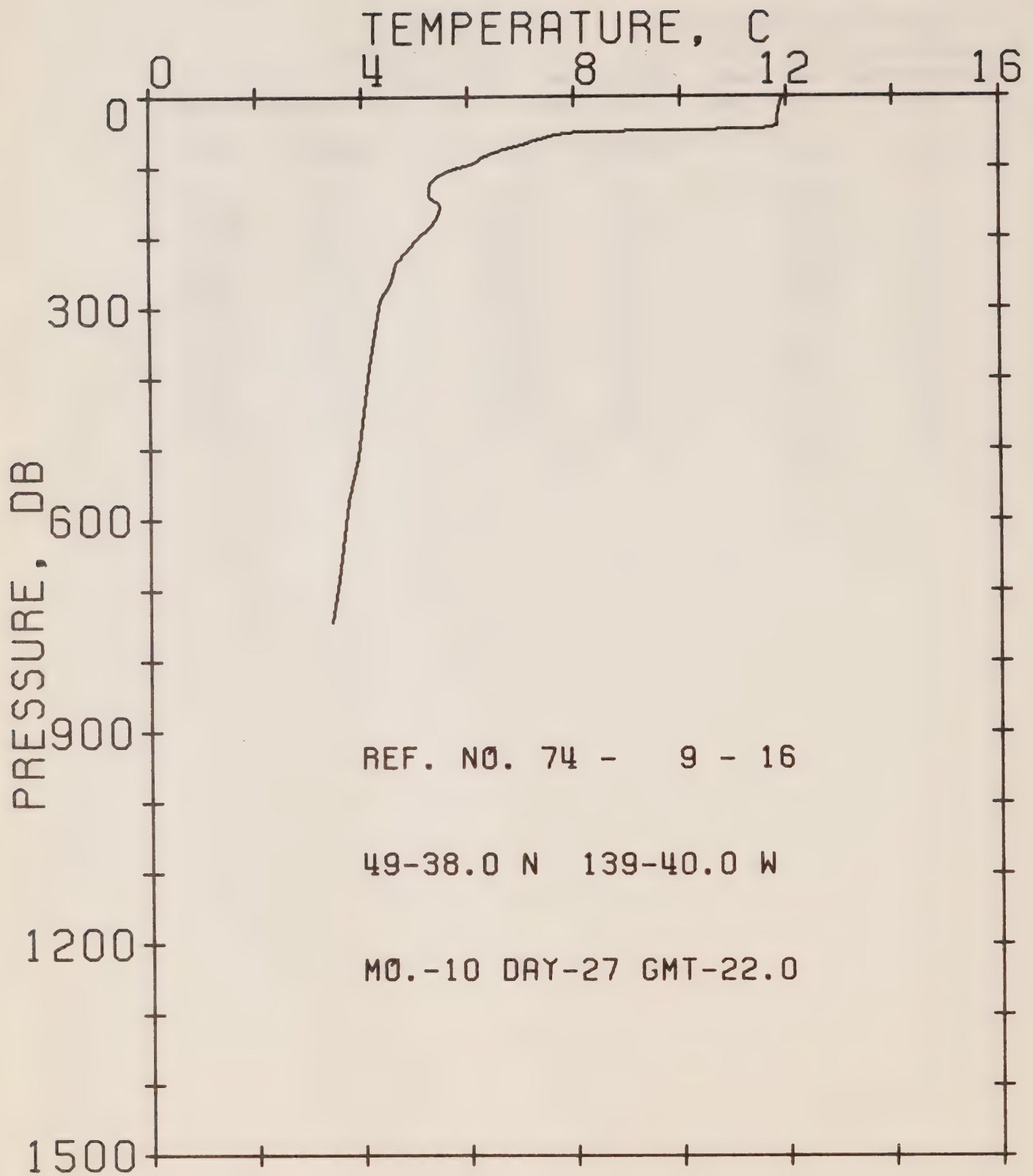
REFERENCE NO. 74- 9- 15

DATE 27/10/74

POSITION 49-03.4N 138-04.0W GMT 18.6

RESULTS OF XBT CAST 34 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	12.14	94	5.77	247	4.68
27	12.09	104	5.39	274	4.52
39	12.04	111	5.18	315	4.35
56	12.04	130	4.96	351	4.24
58	11.83	146	4.96	401	4.02
62	9.81	163	5.28	455	3.96
64	7.87	174	5.28	506	3.85
66	7.50	183	5.34	553	3.80
71	7.07	195	5.23	596	3.68
75	6.75	208	5.12	638	3.68
92	6.37	219	4.96	747	3.52
95	6.32				



OFFSHORE OCEANOGRAPHY

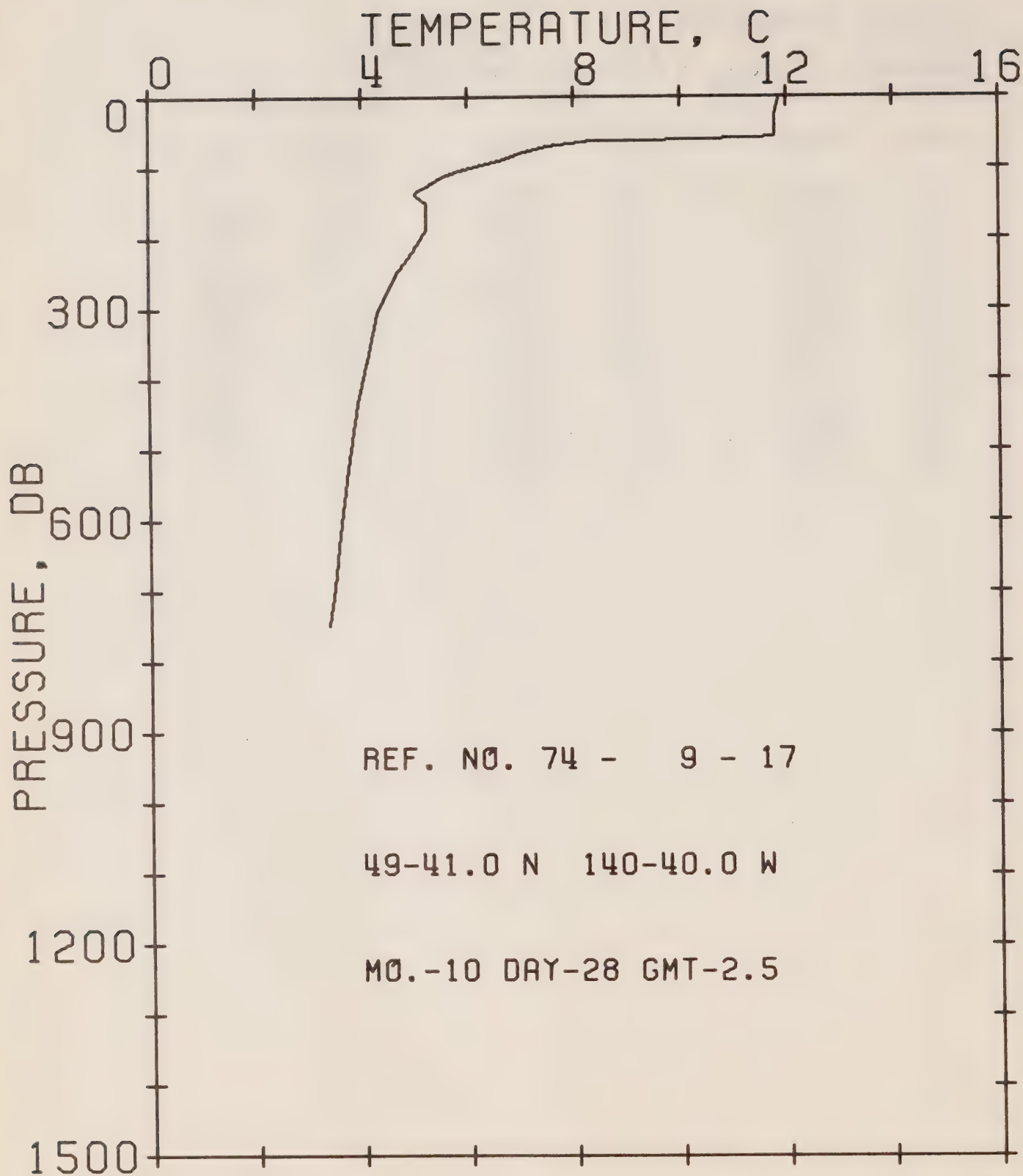
REFERENCE NO. 74- 9- 16

DATE 27/10/74

POSITION 49-03.8N 139-04.0W GMT 22.0

RESULTS OF XBT CAST - 39 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	11.93	89	6.21	217	4.85
29	11.83	95	6.05	236	4.63
42	11.83	99	5.83	261	4.57
45	11.52	105	5.67	288	4.35
47	9.86	111	5.45	336	4.24
50	8.08	121	5.34	382	4.13
53	7.65	127	5.28	447	4.02
63	7.18	143	5.28	512	3.91
65	7.12	151	5.45	573	3.74
69	6.91	158	5.50	639	3.63
74	6.69	170	5.45	697	3.52
80	6.48	182	5.34	744	3.41
85	6.26	199	5.07		



OFFSHORE OCEANOGRAPHY

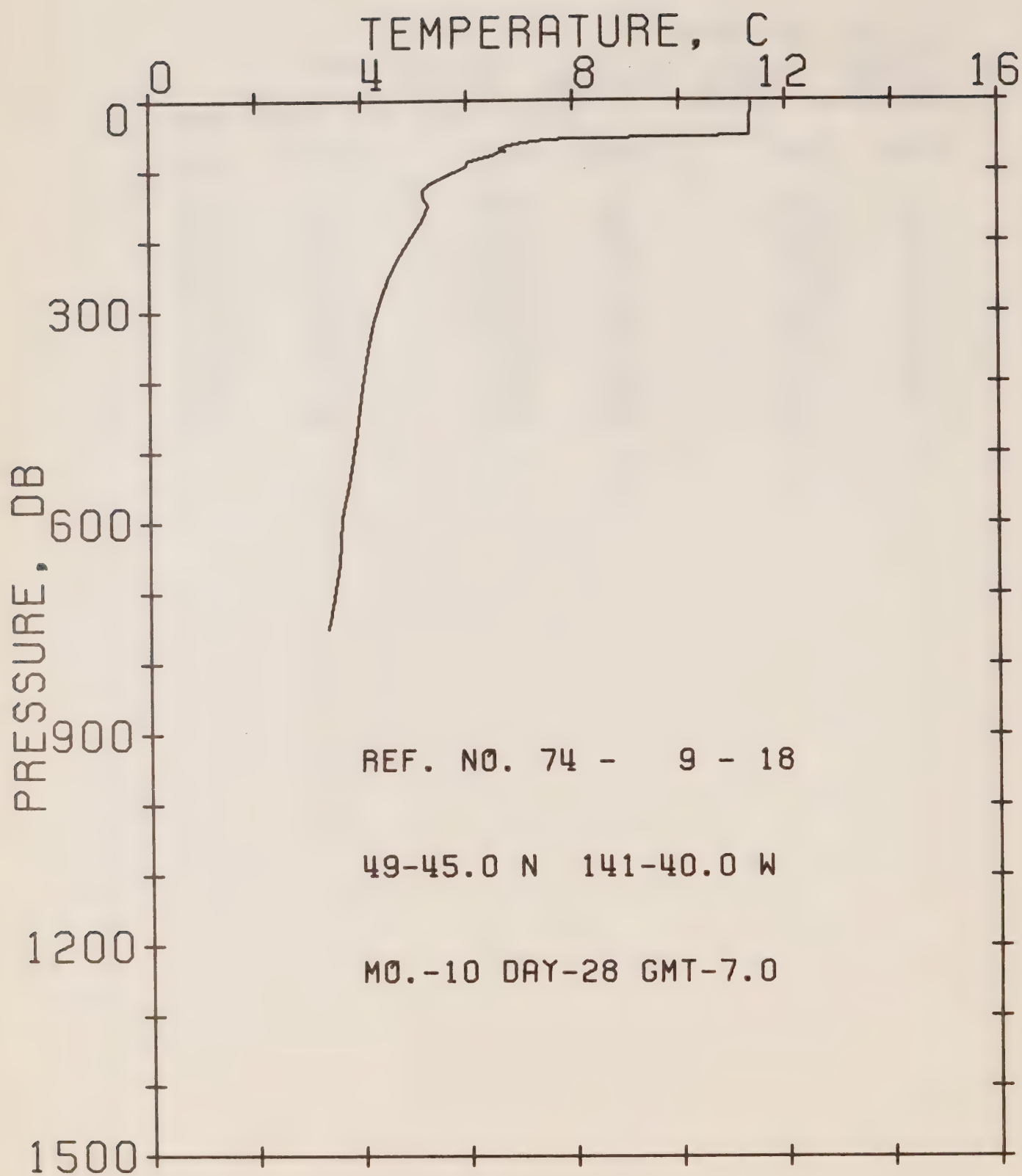
REFERENCE NO. 74- 9- 17

DATE 28/10/74

POSITION 49-04.1N 140-04.0W GMT 02.5

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	11.88	77	7.07	220	4.96
28	11.78	87	6.69	246	4.68
49	11.78	95	6.26	274	4.52
55	11.78	104	5.83	307	4.30
57	11.37	114	5.50	365	4.13
61	9.19	123	5.28	434	3.91
62	8.34	131	5.07	527	3.74
65	7.92	139	5.01	620	3.57
69	7.50	149	5.23	694	3.46
73	7.28	187	5.23	748	3.35



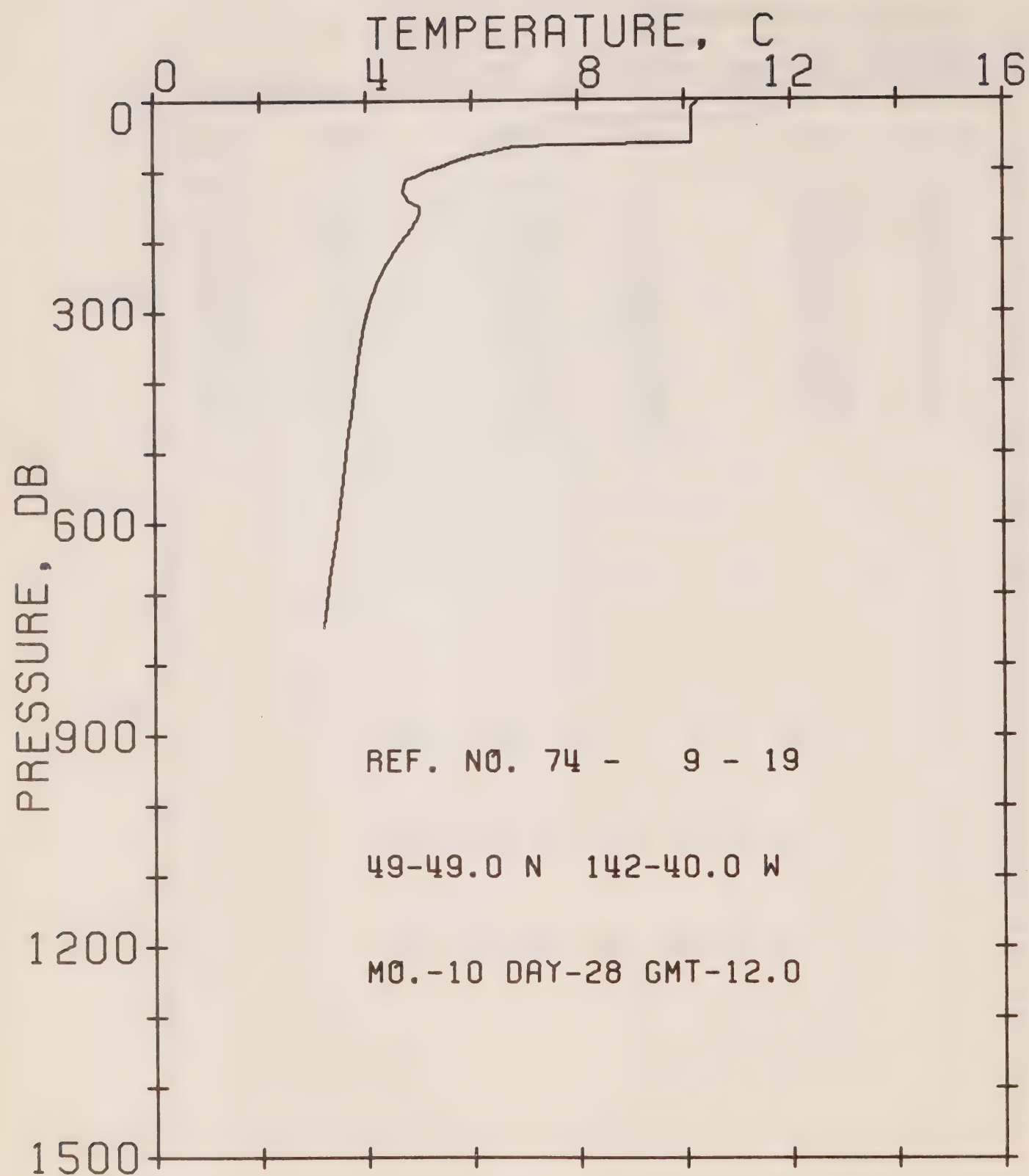
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9- 18 DATE 28/10/74

POSITION 49-04.5N 141-04.0W GMT 07.0

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	11.37	77	6.48	247	4.57
34	11.32	86	6.05	277	4.41
49	11.32	94	5.99	316	4.24
52	10.18	108	5.56	357	4.13
53	7.97	119	5.28	407	4.02
55	7.50	128	5.18	471	3.91
59	7.07	139	5.18	535	3.80
64	6.80	150	5.28	594	3.63
67	6.64	171	5.18	659	3.57
71	6.75	188	5.01	707	3.46
72	6.64	220	4.74	749	3.35



OFFSHORE OCEANOGRAPHY

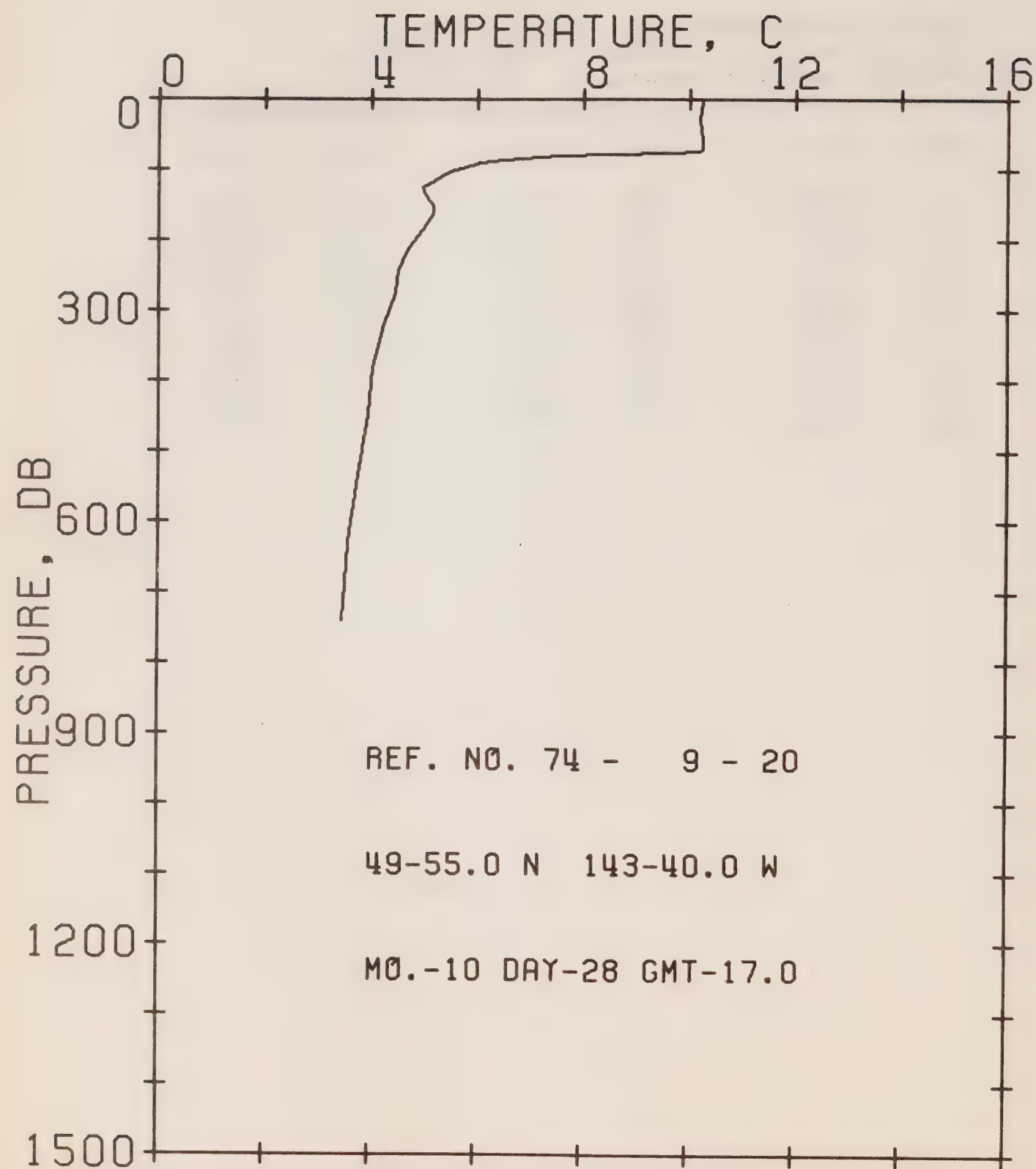
REFERENCE NO. 74- 9- 19

DATE 28/10/74

POSITION 49-04.9N 142-04.0W GMT 12.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.23	99	5.12	252	4.24
13	10.13	107	4.90	284	4.07
55	10.13	112	4.74	320	3.96
62	10.13	129	4.68	366	3.85
64	7.71	141	4.79	431	3.74
66	6.80	151	5.01	485	3.63
70	6.53	162	5.01	555	3.52
74	6.32	182	4.85	620	3.41
78	5.99	202	4.63	679	3.29
85	5.67	229	4.41	747	3.18
94	5.39				



OFFSHORE OCEANOGRAPHY

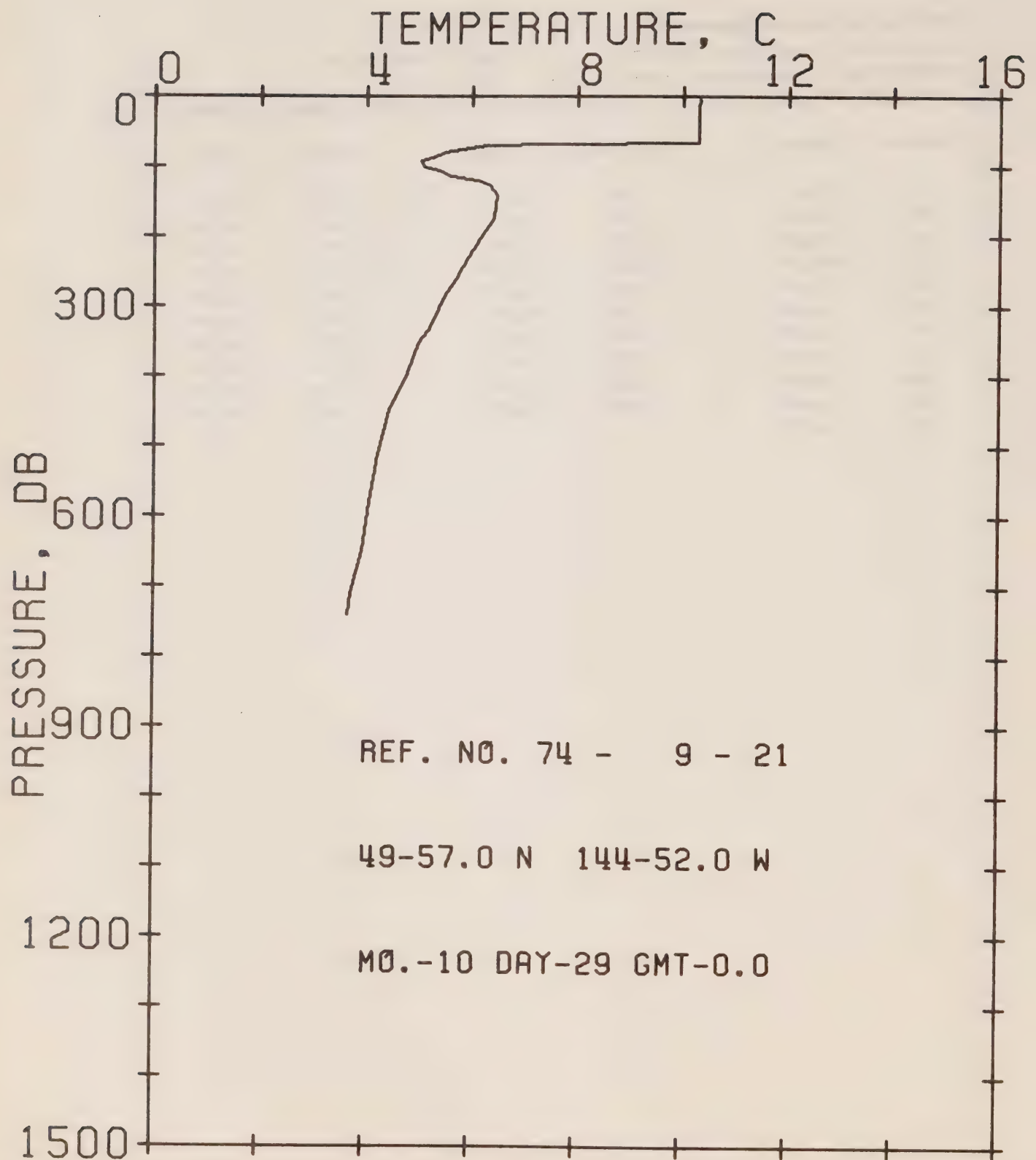
REFERENCE NO. 74- 9- 20

DATE 28/10/74

POSITION 49-05.5N 143-04.0W GMT 17.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.23	97	5.72	213	4.68
30	10.18	99	5.56	243	4.52
58	10.23	103	5.45	275	4.46
71	10.23	115	5.18	320	4.24
73	10.13	123	4.96	383	4.02
75	9.66	135	5.01	447	3.96
77	8.50	147	5.12	548	3.74
80	7.55	153	5.18	630	3.57
84	6.85	163	5.18	688	3.52
86	6.48	185	4.96	740	3.46
90	6.05				



OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9- 21

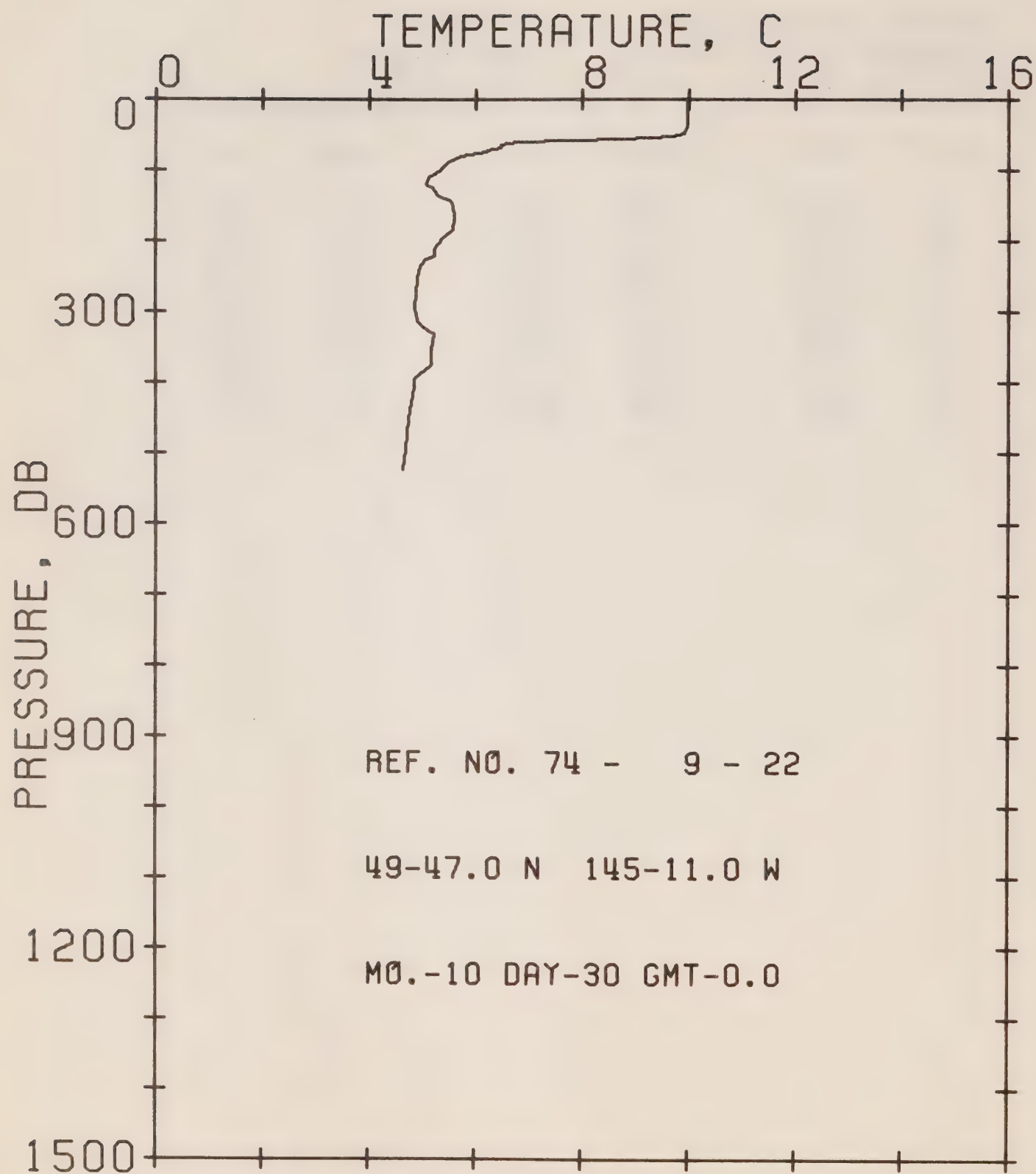
DATE 29/10/74

POSITION 49-05.7N 144-05.2W

GMT 00.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.33	106	5.39	305	5.39
20	10.28	114	5.61	330	5.23
46	10.28	120	6.10	352	5.01
65	10.28	125	6.32	397	4.79
67	7.55	141	6.48	450	4.46
70	6.26	174	6.42	511	4.24
74	5.94	199	6.21	579	4.07
80	5.50	231	5.94	649	3.96
87	5.23	261	5.72	709	3.74
92	5.01	286	5.50	740	3.68
99	5.07				



OFFSHORE OCEANOGRAPHY

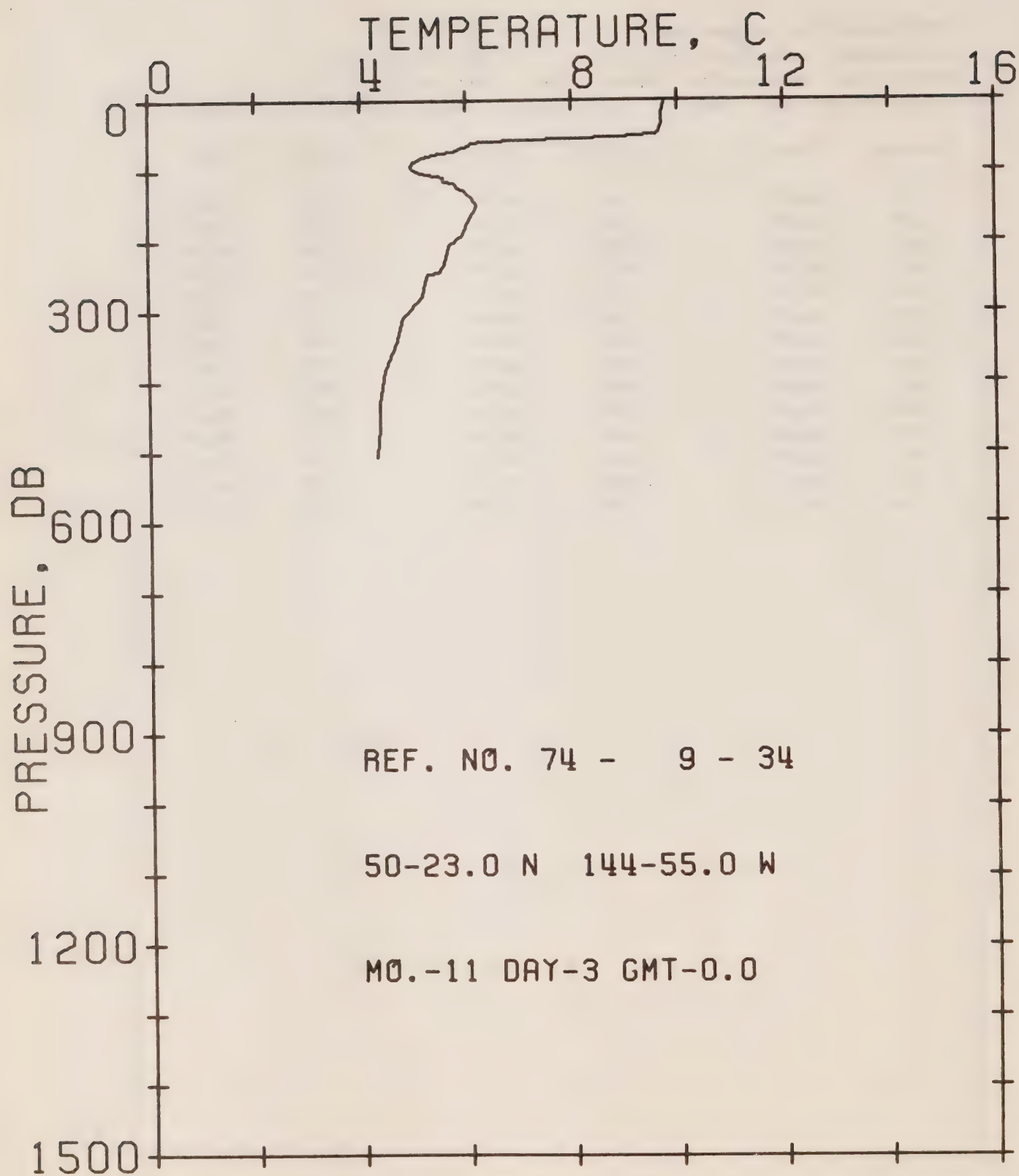
REFERENCE NO. 74- 9- 22

DATE 30/10/74

POSITION 49-04.7N 145-01.1W GMT 00.0

RESULTS OF XBT CAST 42 FCINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.97	87	5.50	235	4.96
27	9.97	99	5.34	253	4.90
40	9.97	110	5.12	296	4.85
47	9.92	119	5.07	314	4.90
50	9.76	124	5.18	323	5.01
52	9.71	135	5.28	332	5.23
55	8.77	143	5.50	355	5.18
59	6.80	151	5.56	375	5.18
62	6.59	170	5.61	389	4.96
64	6.48	184	5.56	395	4.85
68	6.48	195	5.39	407	4.85
72	6.21	211	5.23	452	4.74
74	6.21	222	5.23	495	4.68
79	5.72	226	5.07	524	4.63



OFFSHORE OCEANOGRAPHY

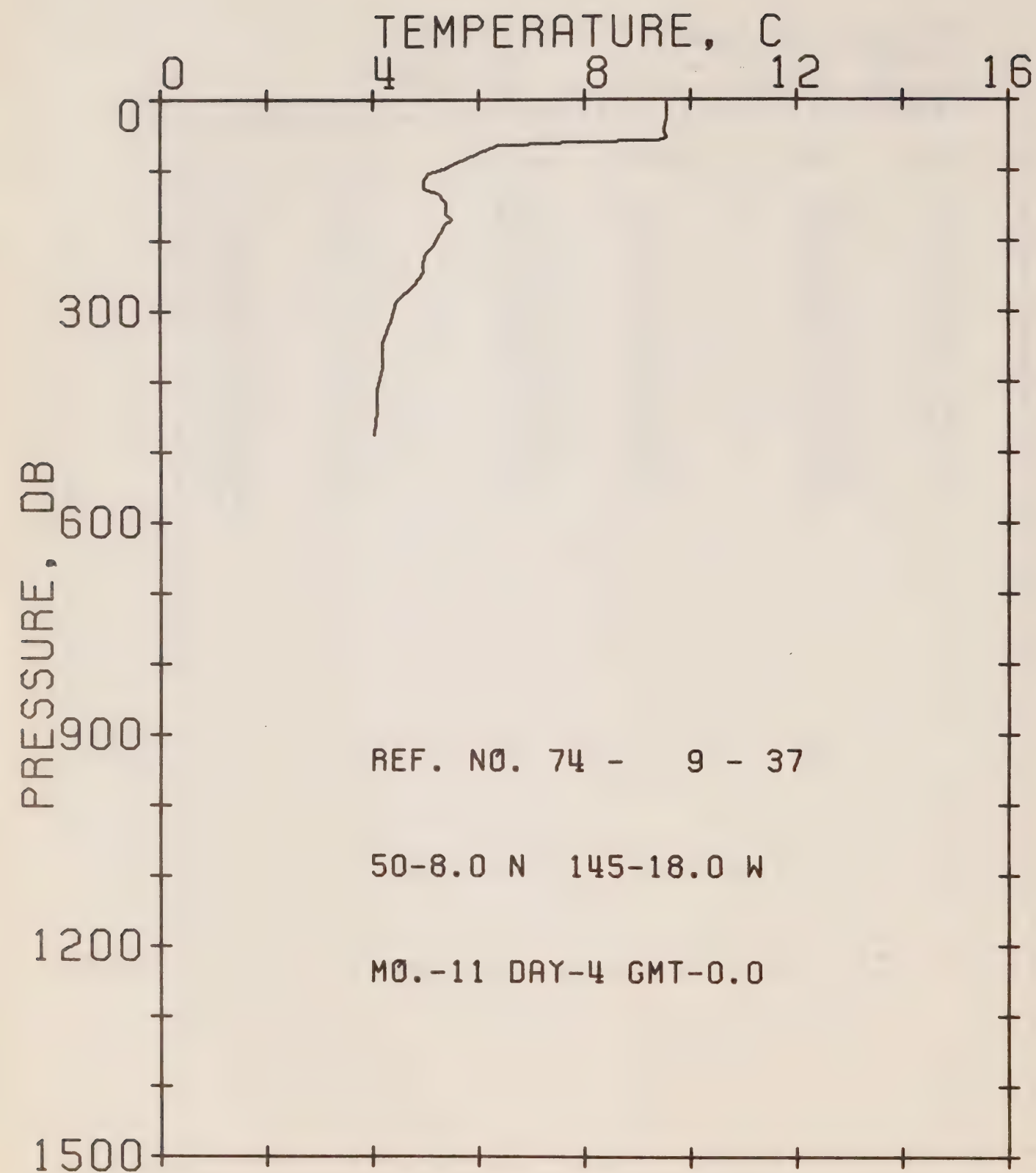
REFERENCE NO. 74- 9- 34

DATE 03/11/74

POSITION 50-02.3N 144-05.5W GMT 00.0

RESULTS OF XBT CAST 39 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	9.76	79	5.18	190	5.94
20	9.71	86	5.01	207	5.67
34	9.71	93	4.96	232	5.61
45	9.66	99	5.07	243	5.50
48	9.55	104	5.28	245	5.28
52	8.87	107	5.56	258	5.23
56	7.07	114	5.56	278	5.18
58	6.32	117	5.77	308	4.79
60	6.10	124	5.83	341	4.68
64	6.05	126	5.94	384	4.46
67	5.88	139	6.10	431	4.35
71	5.77	149	6.21	464	4.35
73	5.50	169	6.05	506	4.30



OFFSHORE OCEANOGRAPHY

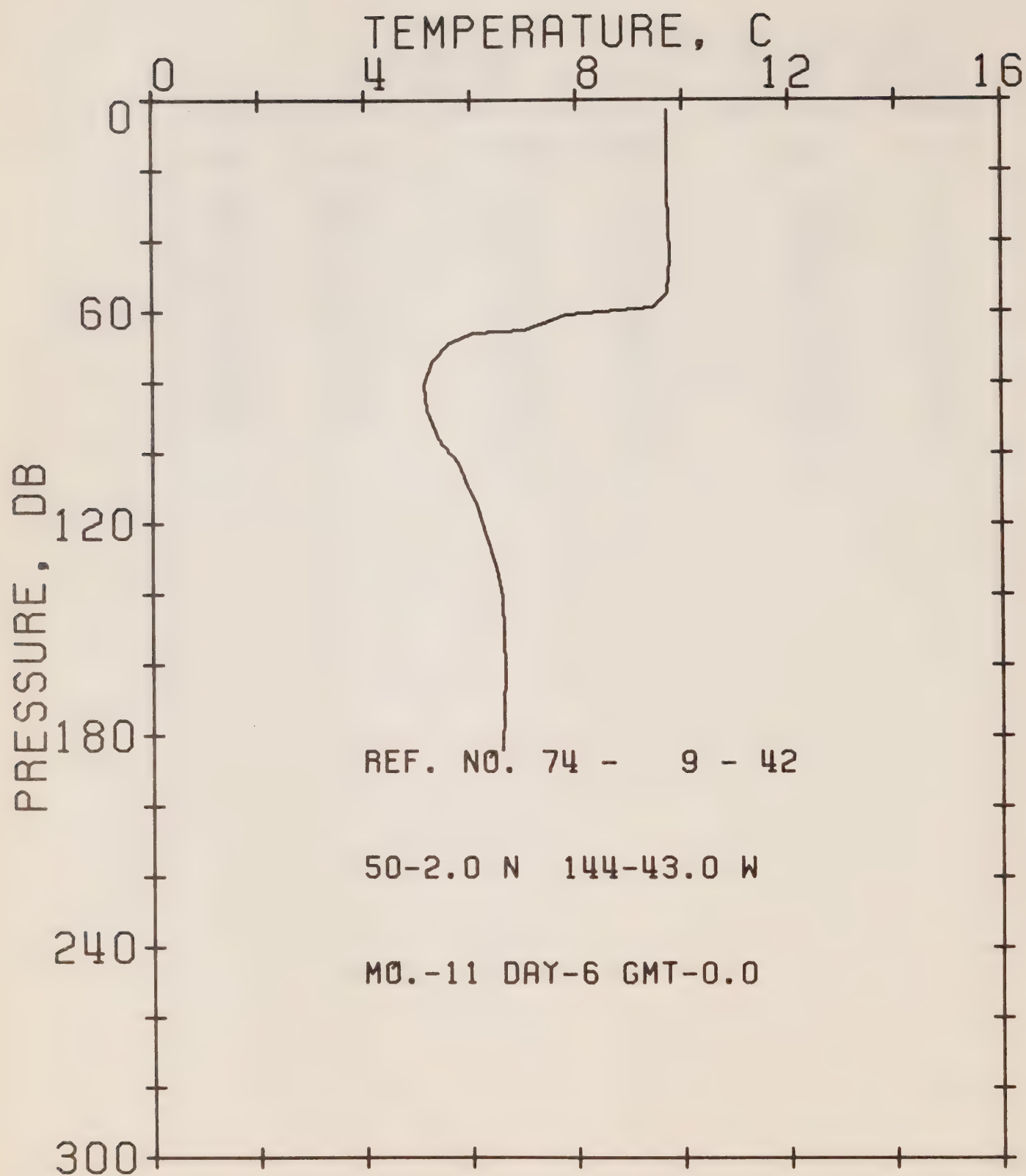
REFERENCE NO. 74- 9- 37

DATE 04/11/74

POSITION 50-00.8N 145-01.8W GMT 00.0

RESULTS OF XBT CAST 32 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.55	105	5.07	233	4.96
25	9.55	114	4.96	247	4.96
43	9.50	125	4.96	261	4.79
53	9.55	132	5.23	285	4.46
58	9.39	145	5.39	315	4.35
60	7.87	163	5.39	347	4.18
63	6.64	169	5.50	382	4.18
64	6.37	176	5.39	413	4.07
72	6.10	189	5.28	442	4.07
86	5.67	207	5.18	475	4.02
97	5.34	217	5.01		



OFFSHORE OCEANOGRAPHY

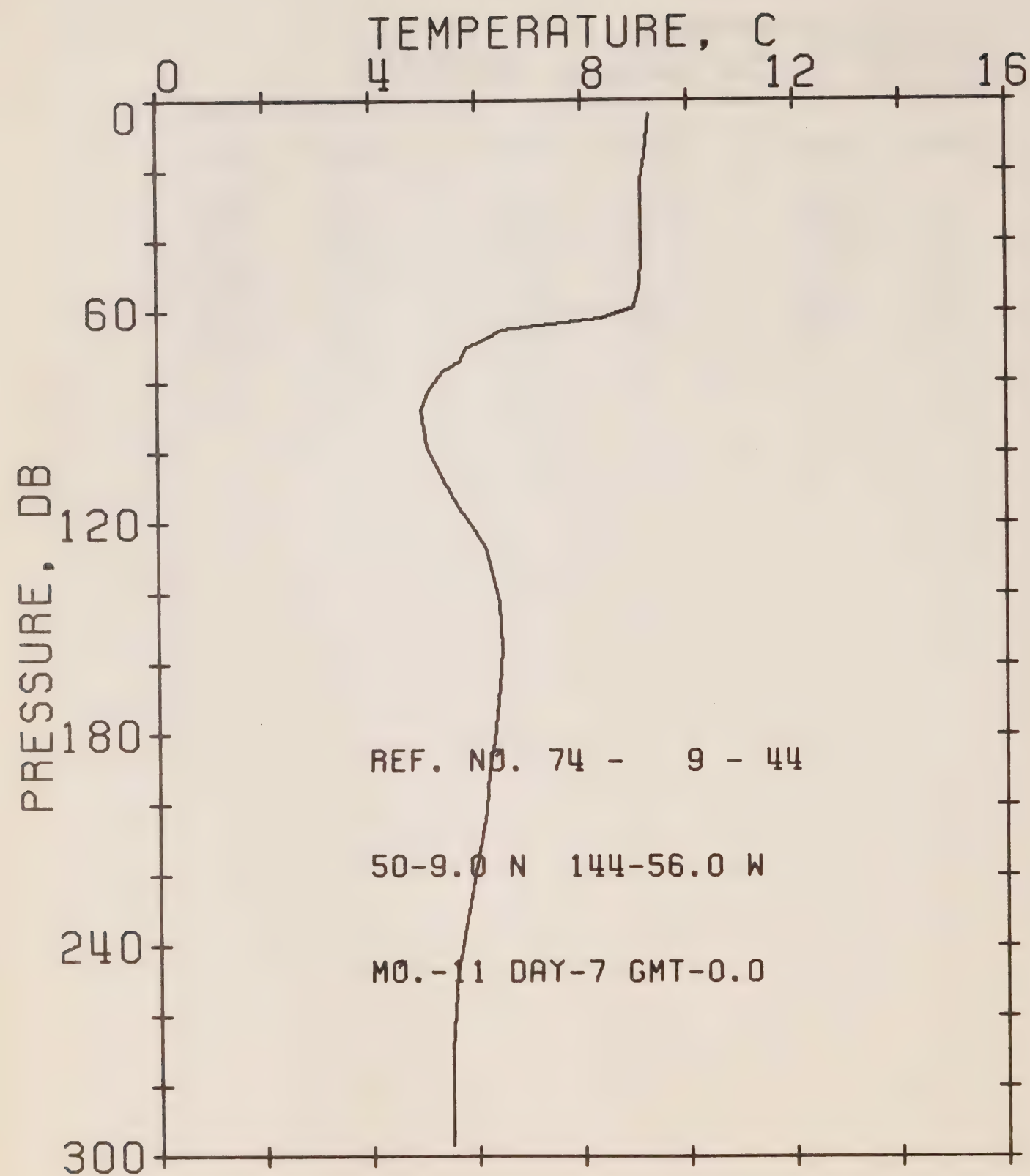
REFERENCE NO. 74- 9- 42

DATE 06/11/74

POSITION 50-00.2N 144-04.3W GMT 00.0

RESULTS OF XBT CAST 21 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	9.71	66	6.05	110	5.94
26	9.71	69	5.61	115	6.10
45	9.76	74	5.28	123	6.26
55	9.71	81	5.12	133	6.48
59	9.45	88	5.18	141	6.59
61	7.81	96	5.39	162	6.64
65	7.01	103	5.77	184	6.59



OFFSHORE OCEANOGRAPHY

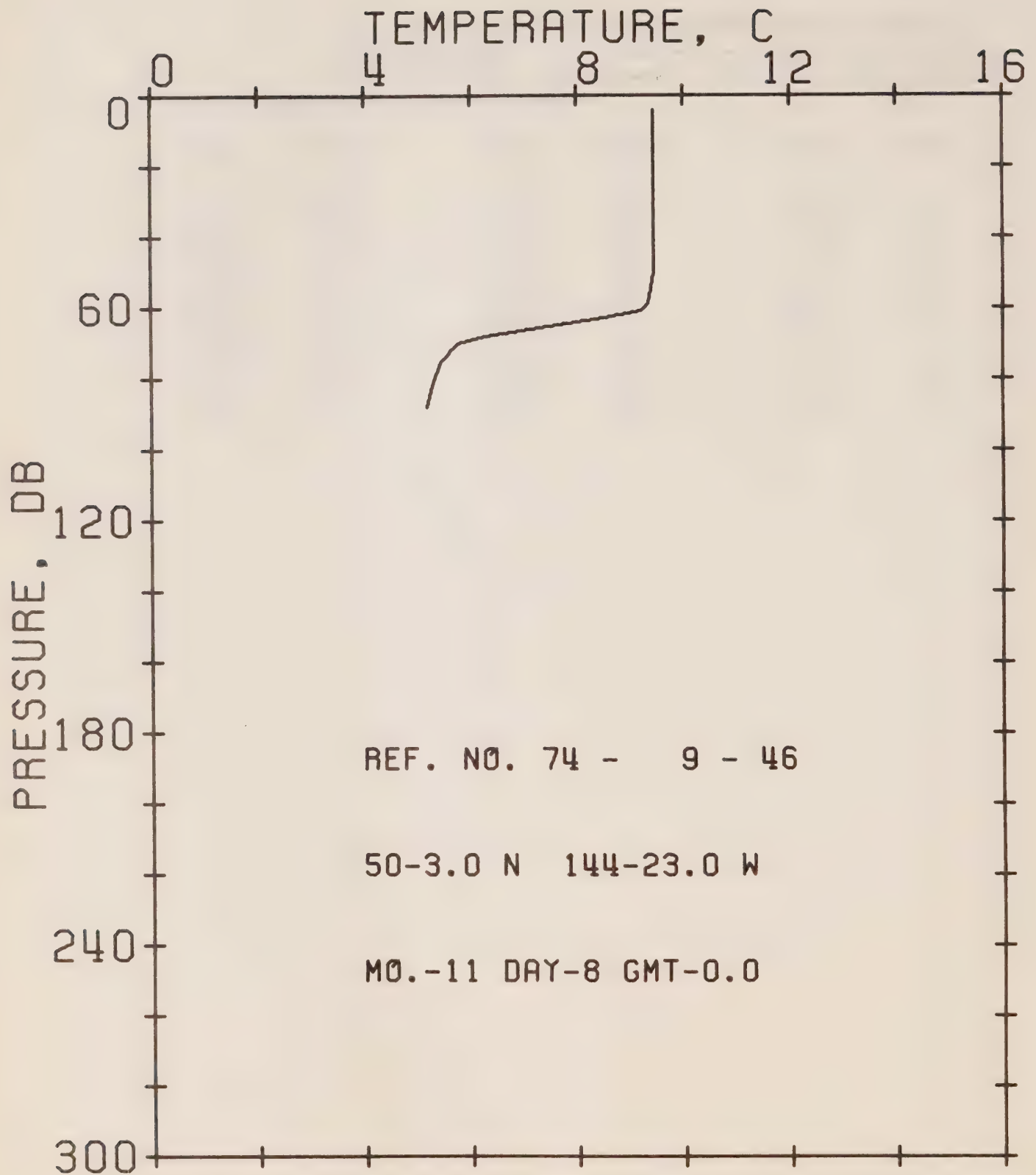
REFERENCE NO. 74- 9- 44

DATE 07/11/74

POSITION 50-00.9N 144-05.6W GMT 00.0

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	9.29	74	5.72	143	6.42
16	9.19	77	5.39	156	6.48
23	9.13	82	5.12	167	6.42
45	9.13	88	4.96	182	6.32
52	9.08	99	5.07	191	6.21
59	8.98	107	5.34	202	6.15
62	8.34	116	5.67	226	5.88
65	6.48	120	5.88	248	5.61
68	6.15	127	6.15	270	5.50
70	5.83	136	6.32	297	5.50



OFFSHORE OCEANOGRAPHY

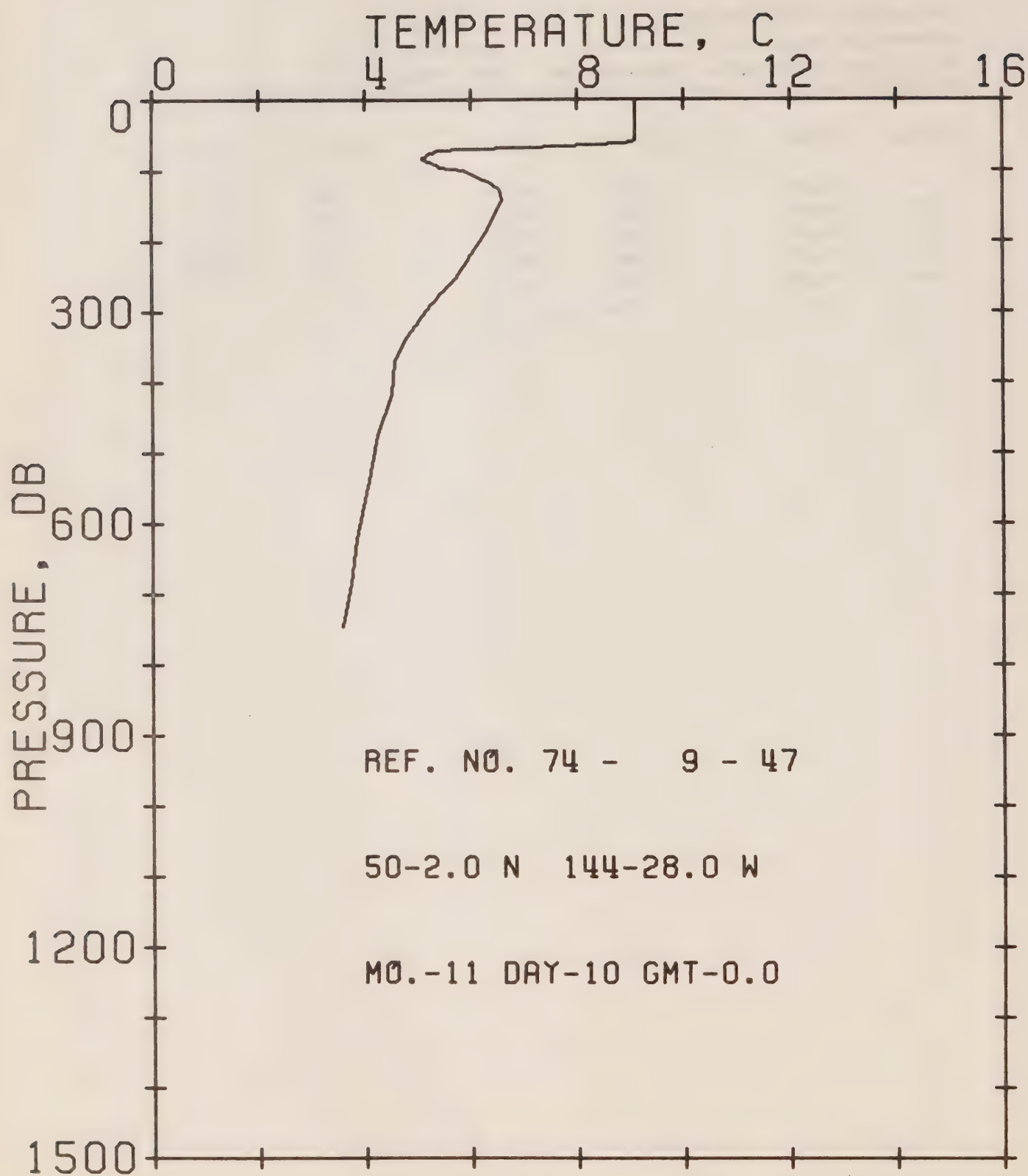
REFERENCE NO. 74- 9- 45

DATE 08/11/74

POSITION 50-00.3N 144-02.3W GMT 00.0

RESULTS OF XBT CAST 14 FCINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	9.45	59	9.34	70	5.77
13	9.45	61	9.19	75	5.45
37	9.45	63	8.50	82	5.28
50	9.45	66	7.12	88	5.18
55	9.39	68	6.26		



OFFSHORE OCEANOGRAPHY

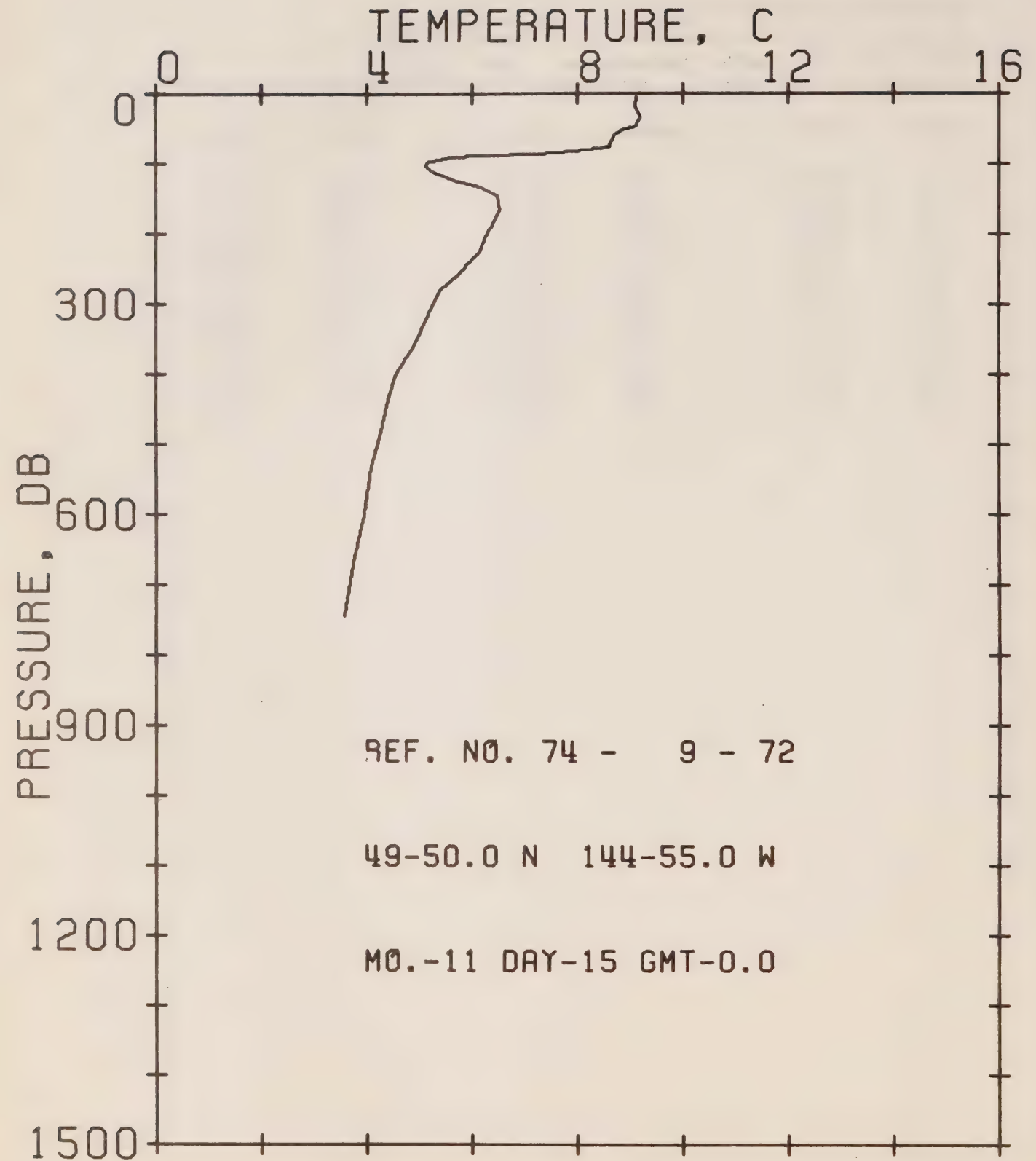
REFERENCE NO. 74- 9- 47

DATE 10/11/74

POSITION 50-00.2N 144-02.8W GMT 00.0

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	9.08	93	5.39	253	5.72
26	9.08	95	5.39	264	5.56
48	9.08	100	5.88	292	5.23
57	9.08	110	6.10	336	4.79
61	8.87	118	6.37	372	4.57
67	7.07	128	6.53	418	4.52
70	5.88	144	6.59	476	4.24
72	5.39	168	6.42	539	4.07
78	5.18	189	6.26	623	3.85
84	5.07	214	6.05	685	3.74
89	5.28	235	5.88	746	3.57



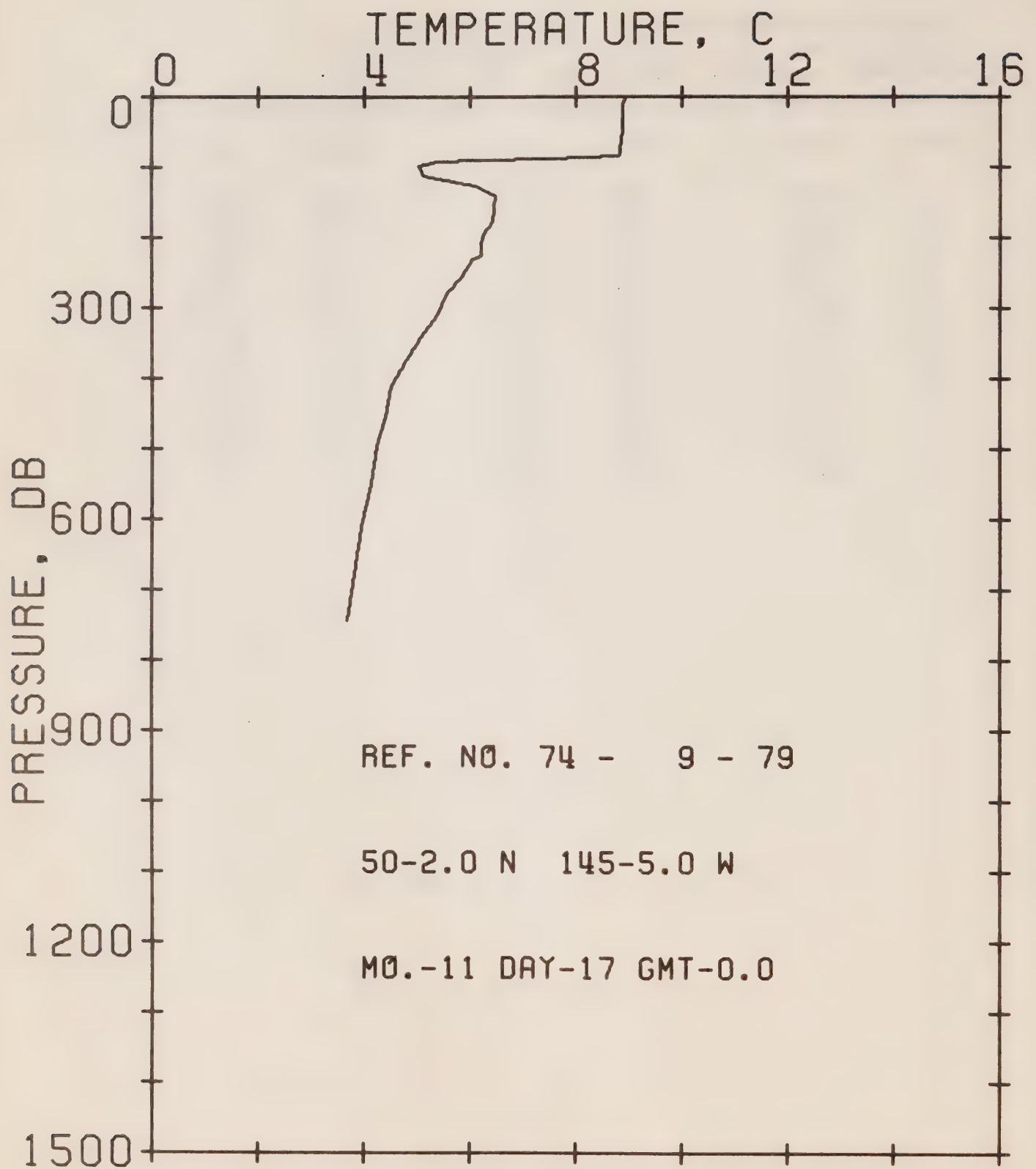
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9- 72 DATE 15/11/74

POSITION 49-05.0N 144-05.5W GMT 00.0

RESULTS OF XBT CAST 38 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	9.13	95	5.18	236	5.99
20	9.08	102	5.12	257	5.77
33	9.19	110	5.23	279	5.39
46	9.13	116	5.45	314	5.18
51	8.82	123	5.72	358	4.90
57	8.71	130	6.05	399	4.57
71	8.61	133	6.21	436	4.41
76	8.61	139	6.32	490	4.24
82	7.92	144	6.48	531	4.07
85	7.23	166	6.53	599	3.96
87	6.15	181	6.42	669	3.74
90	5.56	201	6.26	744	3.57
93	5.39	224	6.15		



OFFSHORE OCEANOGRAPHY

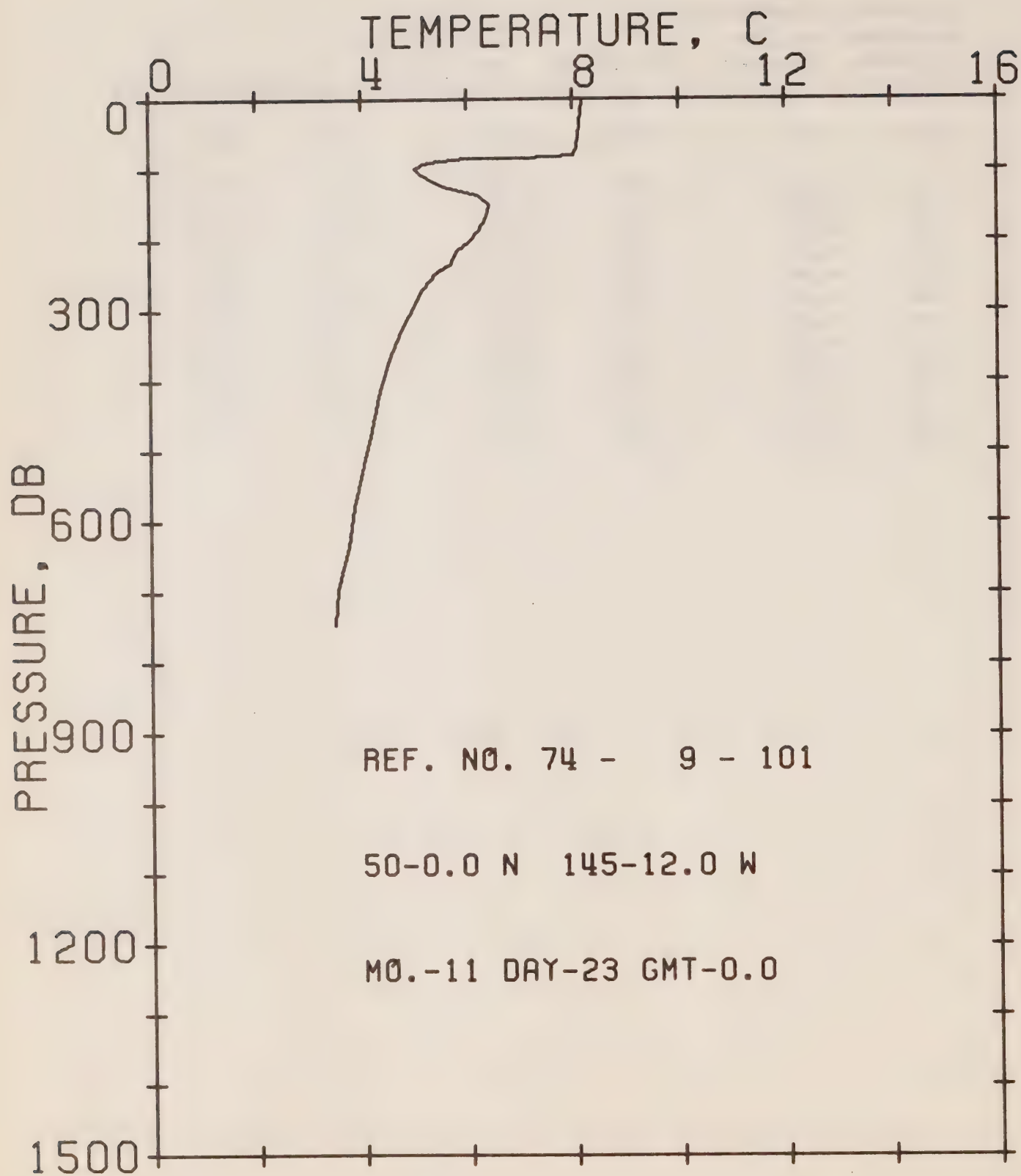
REFERENCE NO. 74- 9- 79

DATE 17/11/74

POSITION 50-00.2N 145-00.5W GMT 00.0

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	8.92	116	5.39	278	5.56
13	8.87	119	5.67	309	5.39
48	8.87	122	5.77	336	5.12
75	8.82	126	6.10	374	4.79
81	8.82	133	6.32	411	4.52
84	8.77	140	6.48	455	4.41
87	7.50	178	6.42	495	4.24
90	6.15	194	6.26	550	4.13
92	5.39	208	6.21	612	3.96
97	5.01	225	6.21	665	3.85
106	5.07	230	6.05	744	3.68
112	5.12	257	5.83		



OFFSHORE OCEANOGRAPHY

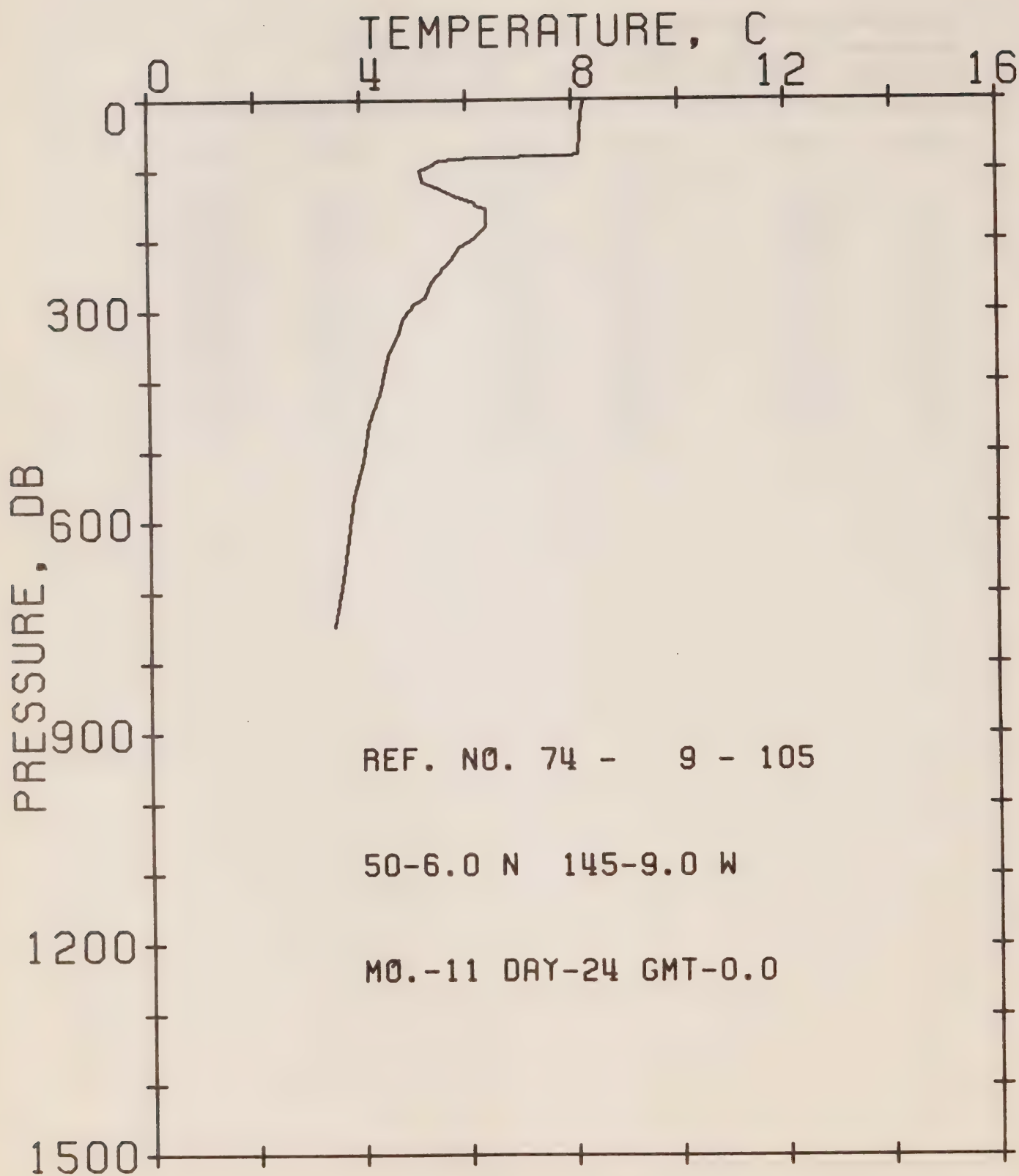
REFERENCE NO. 74- 9-101

DATE 23/11/74

POSITION 50-00.0N 145-01.2W GMT 00.0

RESULTS OF XBT CAST 32 FCINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	8.19	123	5.56	293	5.01
35	8.13	130	5.88	323	4.79
69	8.08	136	6.21	365	4.57
80	8.03	150	6.42	413	4.35
83	7.07	168	6.37	470	4.18
84	5.99	187	6.21	519	4.02
89	5.28	202	6.05	580	3.85
94	5.12	215	5.83	636	3.74
97	5.01	234	5.72	696	3.52
106	5.12	247	5.45	745	3.46
118	5.39	269	5.18		



OFFSHORE OCEANOGRAPHY

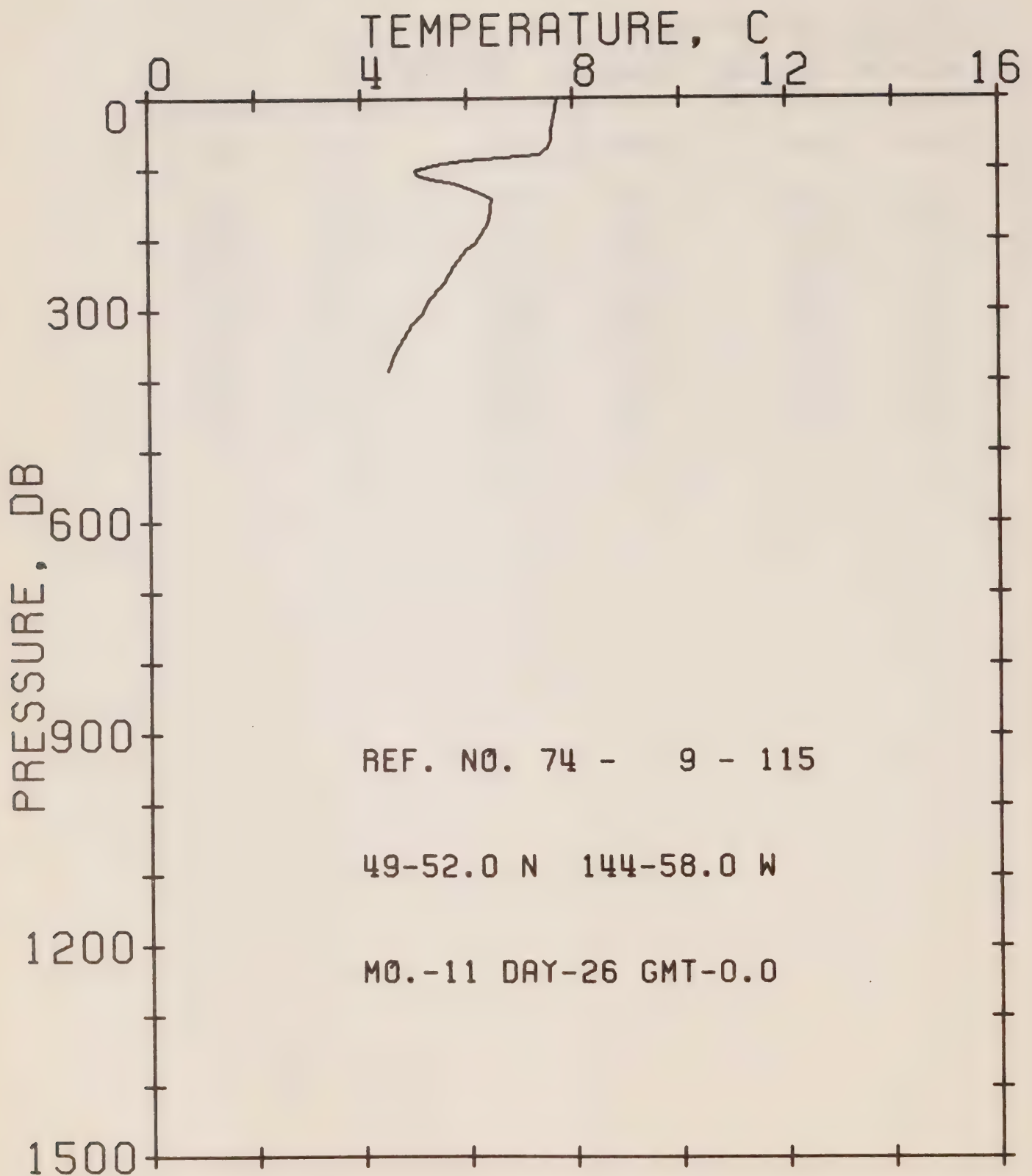
REFERENCE NO. 74- 9-105

DATE 24/11/74

POSITION 50-00.6N 145-00.9W GMT 00.0

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	8.24	137	5.83	291	5.01
18	8.19	146	6.15	310	4.79
77	8.13	149	6.15	336	4.68
79	7.92	155	6.37	364	4.52
82	6.10	179	6.37	417	4.35
84	5.83	195	6.15	460	4.13
86	5.50	209	5.88	514	4.02
94	5.34	227	5.72	563	3.85
101	5.12	238	5.56	623	3.74
115	5.18	260	5.34	682	3.63
124	5.45	280	5.23	747	3.46



OFFSHORE OCEANOGRAPHY

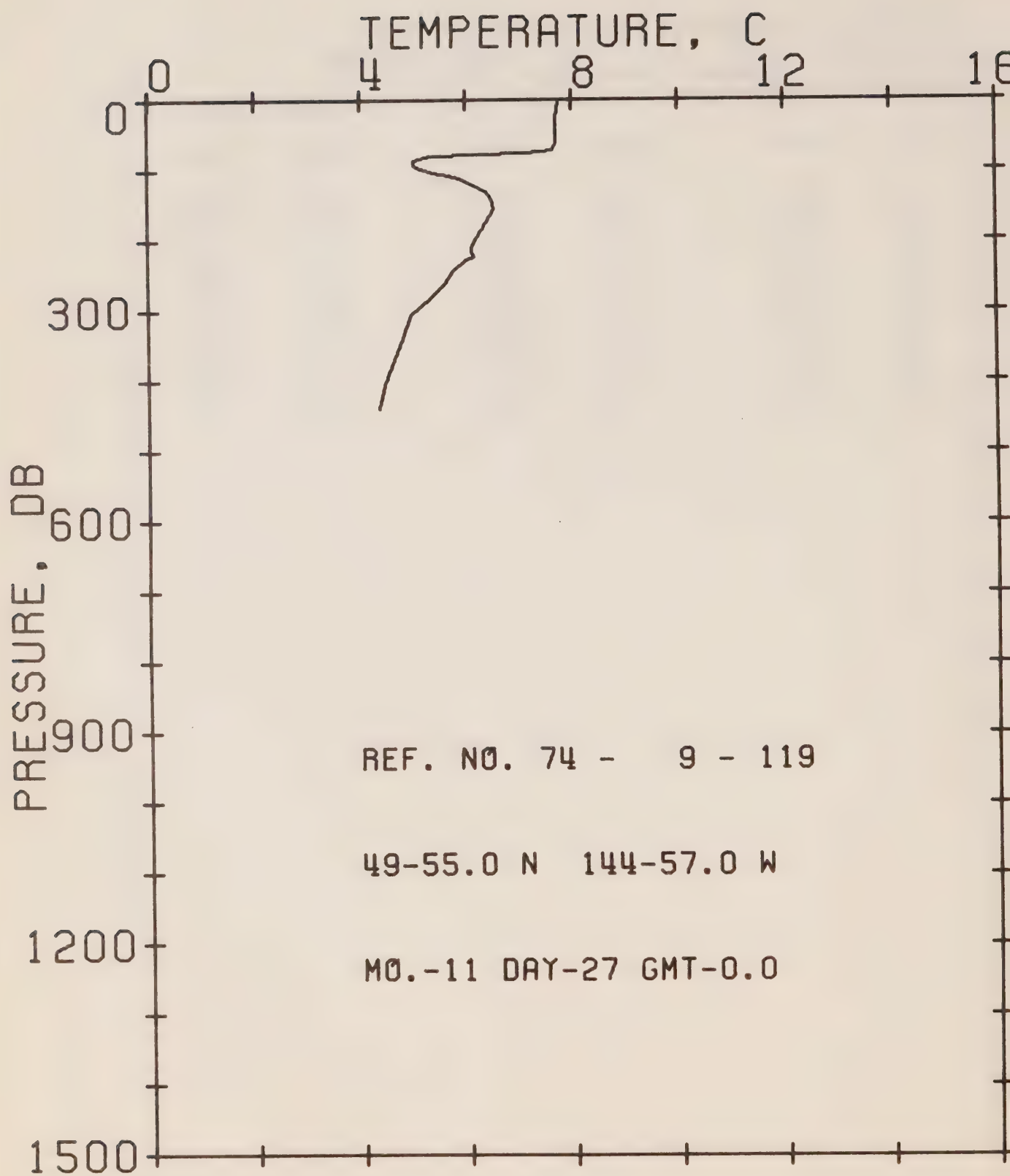
REFERENCE NO. 74- 9-115

DATE 26/11/74

POSITION 49-05.2N 144-05.8W GMT 00.0

RESULTS OF XBT CAST 30 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	7.71	102	5.01	207	6.15
26	7.65	108	5.07	215	5.99
46	7.60	114	5.34	237	5.77
60	7.60	117	5.50	262	5.56
69	7.55	120	5.77	285	5.28
72	7.50	128	6.05	304	5.18
79	7.39	134	6.26	321	4.96
88	5.94	143	6.48	340	4.79
93	5.39	173	6.42	359	4.63
97	5.18	193	6.26	386	4.52



OFFSHORE OCEANOGRAPHY

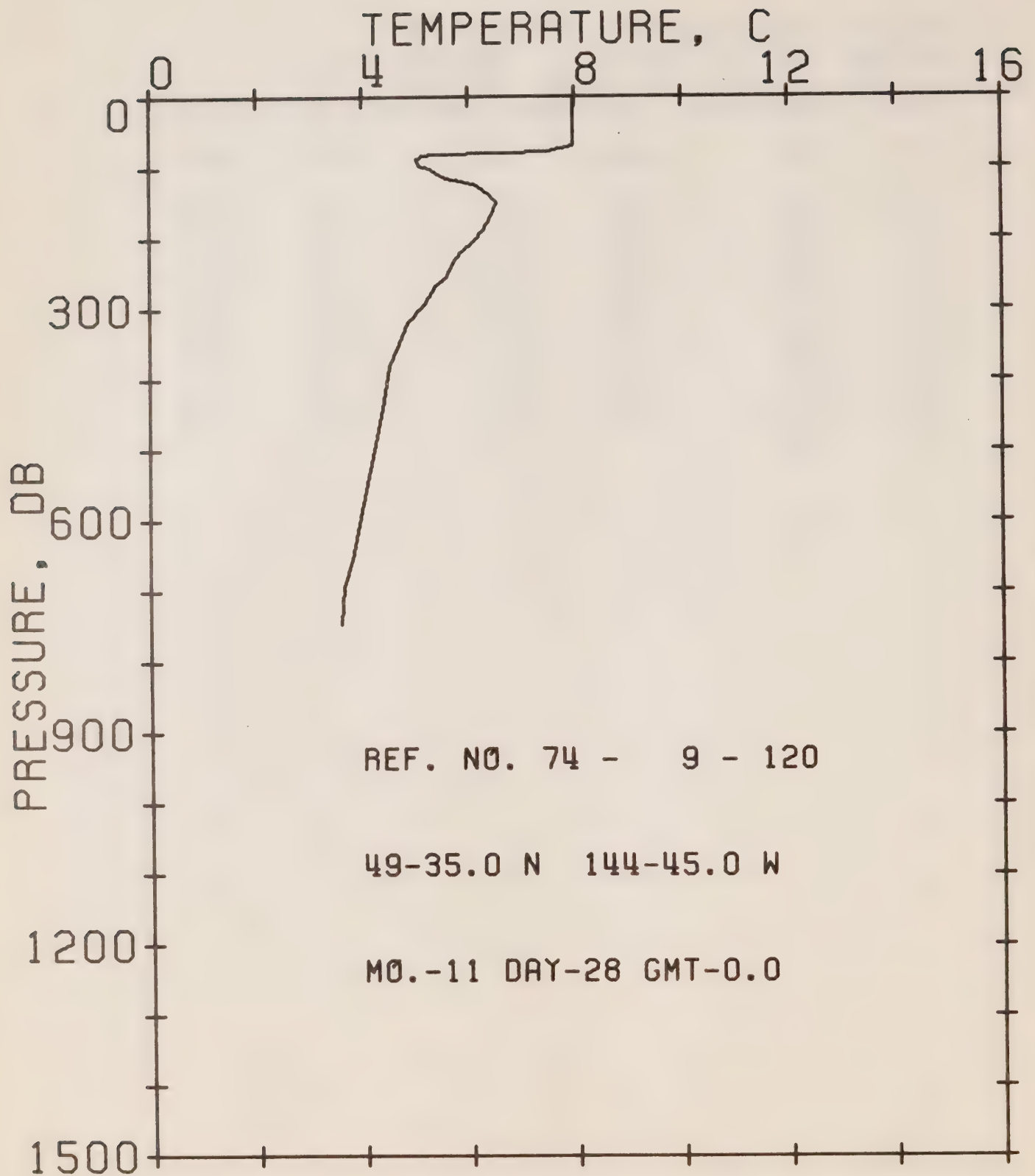
REFERENCE NO. 74- 9-119

DATE 27/11/74

POSITION 49-05.5N 144-05.7W GMT 00.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	7.76	108	5.67	224	6.15
26	7.71	112	5.88	228	5.99
46	7.71	120	6.10	243	5.77
62	7.71	129	6.37	261	5.61
72	7.65	141	6.48	283	5.34
75	7.12	156	6.53	307	4.96
79	5.34	175	6.37	340	4.79
85	5.01	195	6.21	370	4.63
93	5.01	210	6.10	406	4.46
99	5.23	218	6.10	439	4.35
103	5.39				



OFFSHORE OCEANOGRAPHY

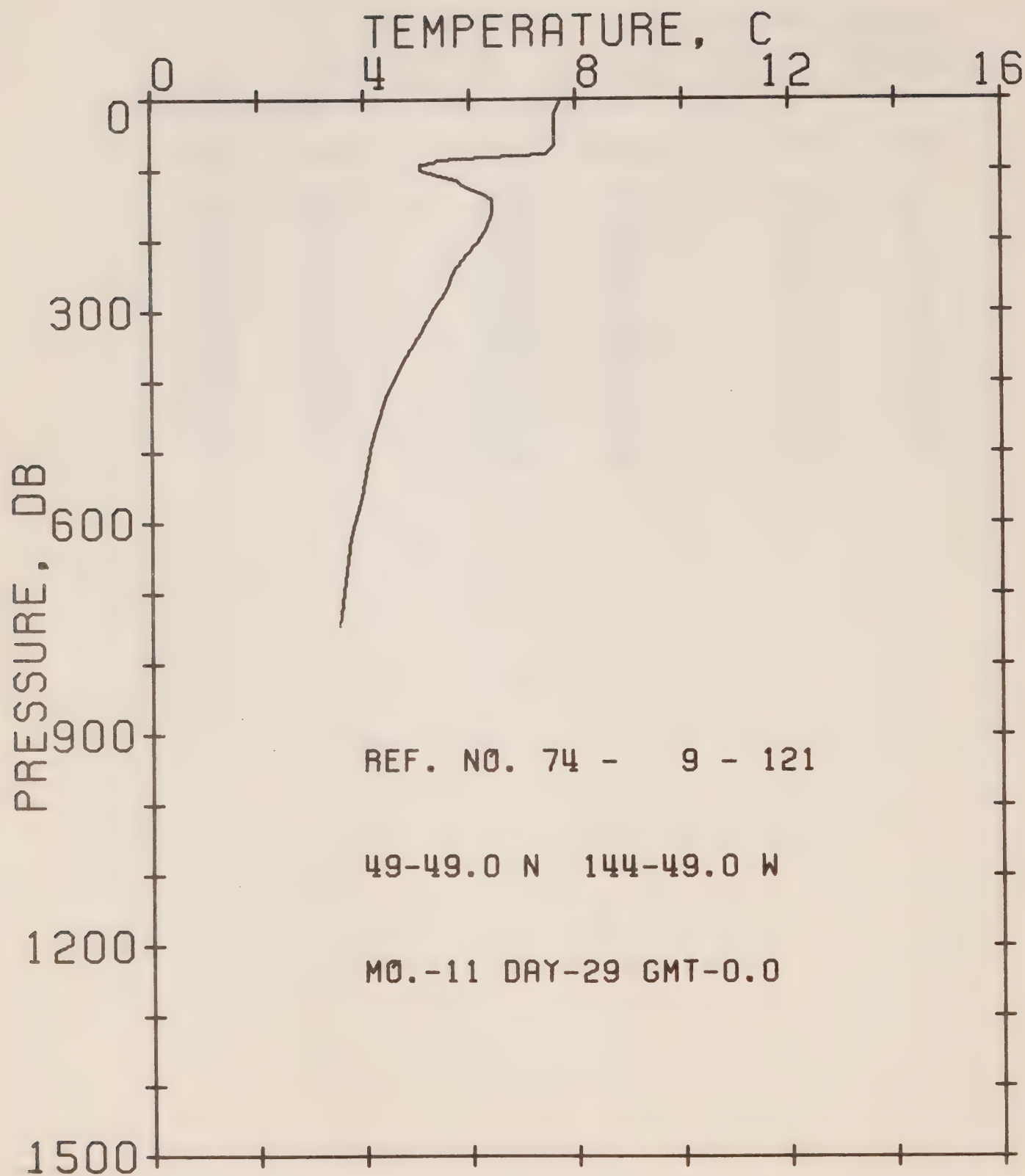
REFERENCE NO. 74- 9-120

DATE 28/11/74

POSITION 49-03.5N 144-04.5W GMT 00.0

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	7.97	117	5.56	294	5.18
35	7.97	121	5.88	321	4.85
70	7.97	126	6.15	350	4.68
77	7.50	138	6.37	382	4.52
80	6.64	150	6.53	431	4.41
82	5.74	171	6.42	492	4.24
84	5.12	189	6.26	548	4.07
89	5.01	203	6.10	605	3.91
97	5.07	219	5.88	656	3.80
102	5.28	229	5.77	693	3.63
109	5.39	254	5.61	746	3.57
112	5.50	268	5.39		



OFFSHORE OCEANOGRAPHY

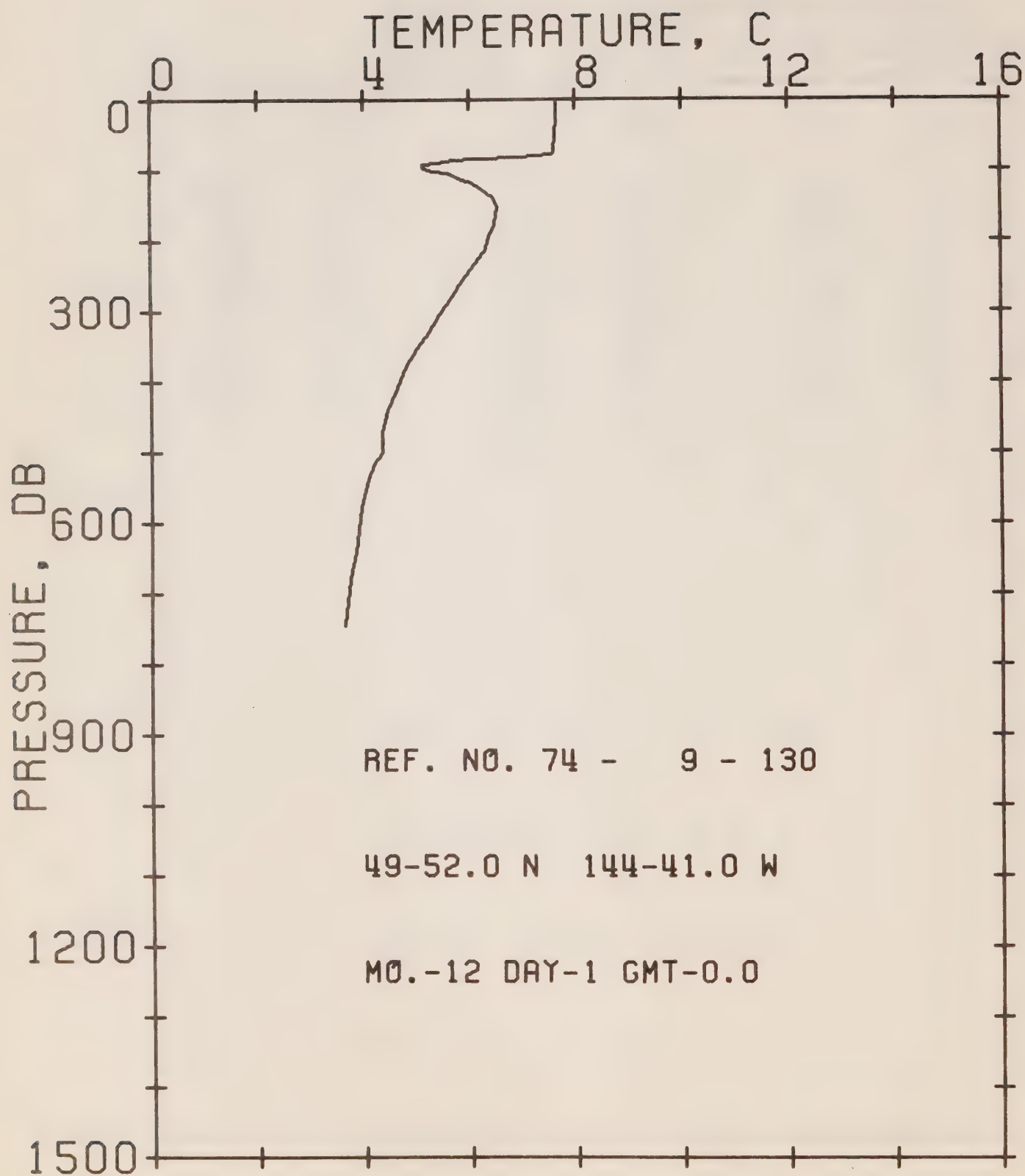
REFERENCE NO. 74- 9-121

DATE 29/11/74

POSITION 49-04.9N 144-04.9W GMT 00.0

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	7.71	114	5.77	271	5.56
22	7.60	122	5.88	295	5.34
46	7.60	127	6.05	332	5.07
65	7.60	134	6.26	371	4.74
78	7.44	141	6.42	423	4.41
82	6.32	163	6.42	488	4.13
85	5.39	183	6.32	563	3.96
90	5.34	202	6.15	622	3.74
92	5.07	220	5.94	684	3.63
99	5.07	243	5.72	745	3.52
106	5.34				



OFFSHORE OCEANOGRAPHY

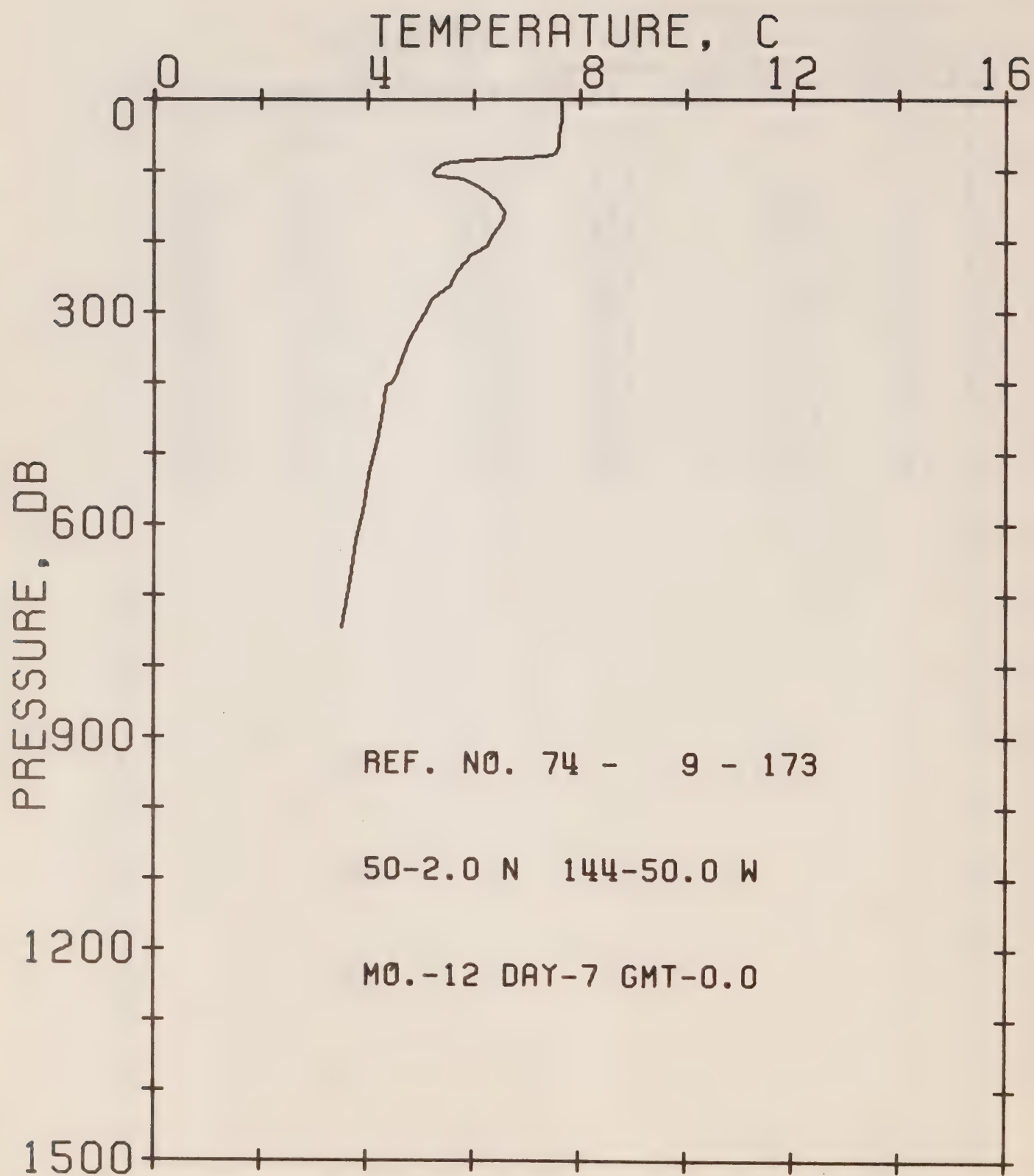
REFERENCE NO. 74- 9-130

DATE 01/12/74

POSITION 49-05.2N 144-04.1W GMT 00.0

RESULTS OF XBT CAST 40 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	7.65	114	5.83	333	5.23
26	7.65	117	5.99	354	5.01
76	7.60	123	6.15	380	4.79
78	7.55	132	6.32	409	4.63
82	6.96	138	6.42	442	4.46
84	6.10	155	6.53	474	4.35
86	5.72	178	6.48	502	4.35
89	5.39	195	6.37	517	4.18
92	5.12	211	6.32	540	4.07
95	5.12	234	6.10	579	3.96
99	5.23	258	5.88	641	3.85
102	5.34	279	5.67	679	3.74
105	5.56	307	5.45	745	3.63
109	5.72				



OFFSHORE OCEANOGRAPHY

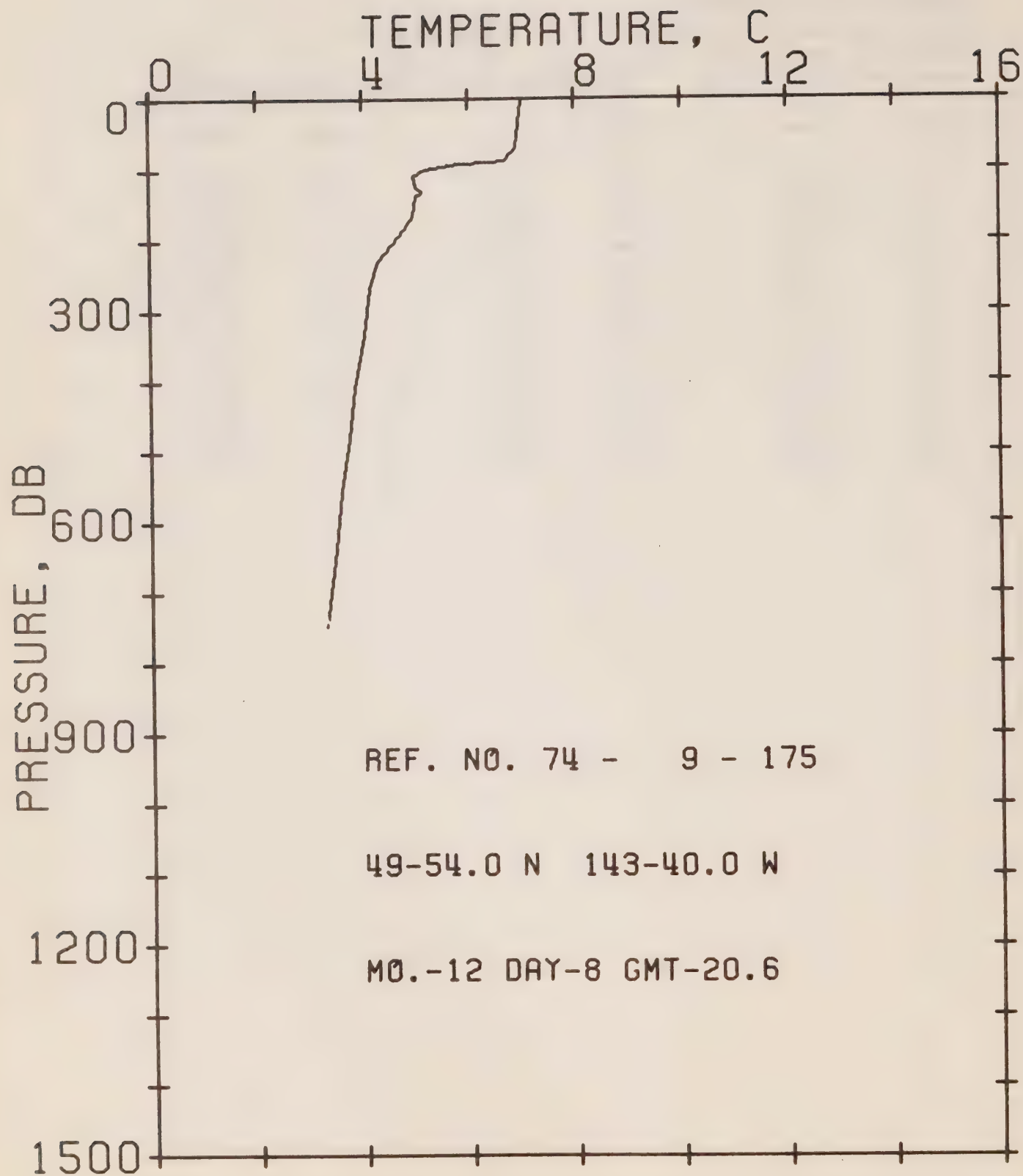
REFERENCE NO. 74- 9-173

DATE 07/12/74

POSITION 50-00.2N 144-05.0W GMT 00.0

RESULTS OF XBT CAST 39 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	7.65	107	5.28	282	5.23
30	7.65	110	5.67	304	5.07
53	7.60	114	5.88	338	4.79
67	7.60	124	6.10	371	4.63
75	7.55	131	6.26	396	4.52
79	7.34	141	6.42	405	4.35
92	6.91	160	6.59	439	4.30
94	6.15	173	6.53	483	4.18
86	5.88	189	6.37	532	4.02
88	5.56	207	6.26	584	3.91
91	5.39	221	5.94	624	3.80
98	5.28	242	5.72	679	3.68
103	5.23	261	5.56	746	3.52



OFFSHORE OCEANOGRAPHY

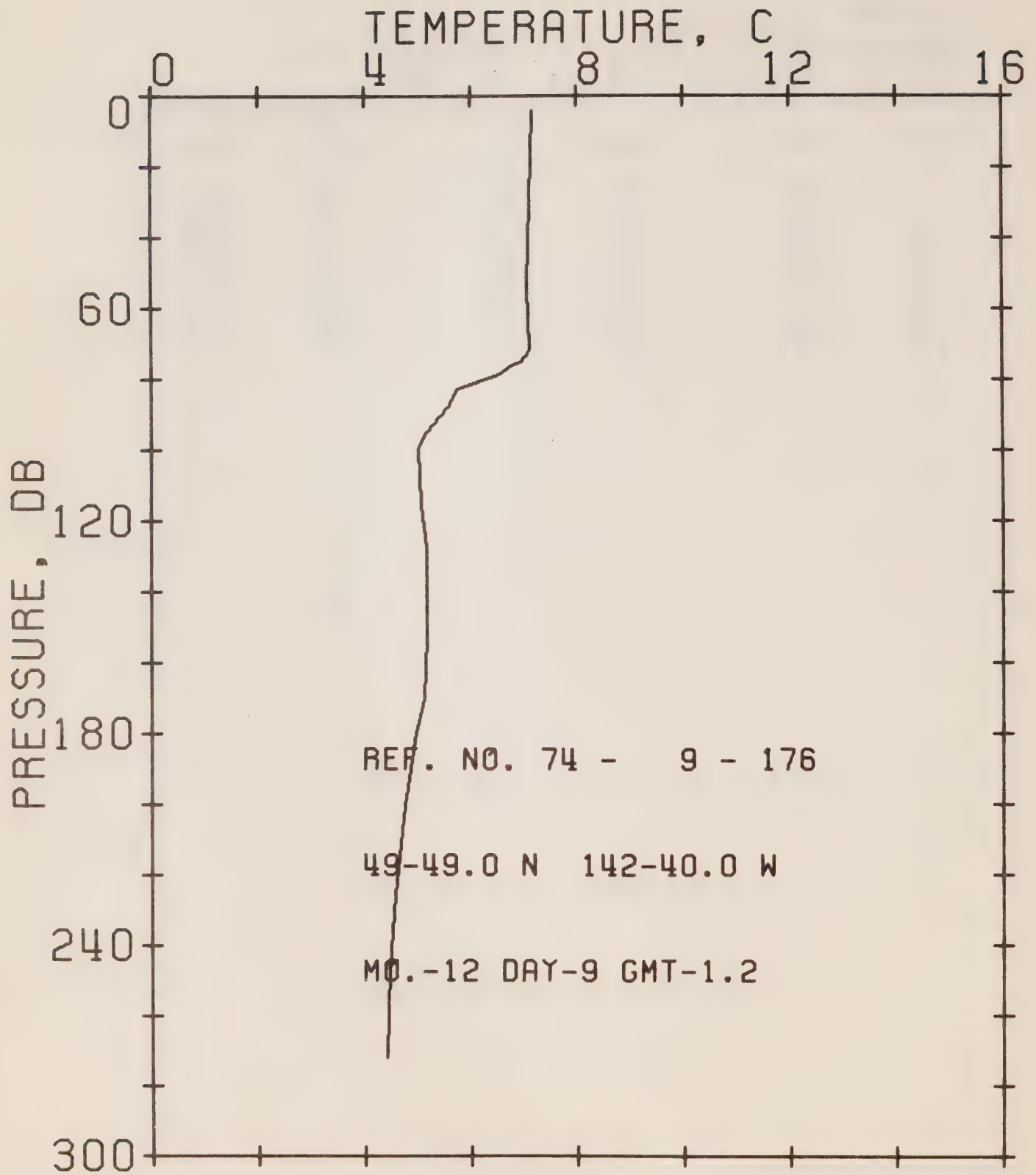
REFERENCE NO. 74- 9-175

DATE 08/12/74

POSITION 49-05.4N 143-04.0W GMT 20.6

RESULTS OF XBT CAST 23 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	7.01	105	5.07	267	4.13
36	6.96	110	4.96	335	4.02
69	6.91	124	5.01	409	3.85
78	6.80	131	5.12	481	3.74
87	6.69	138	5.01	558	3.57
90	6.37	167	4.96	640	3.46
92	5.83	193	4.68	747	3.29
100	5.18	231	4.30		



OFFSHORE OCEANOGRAPHY

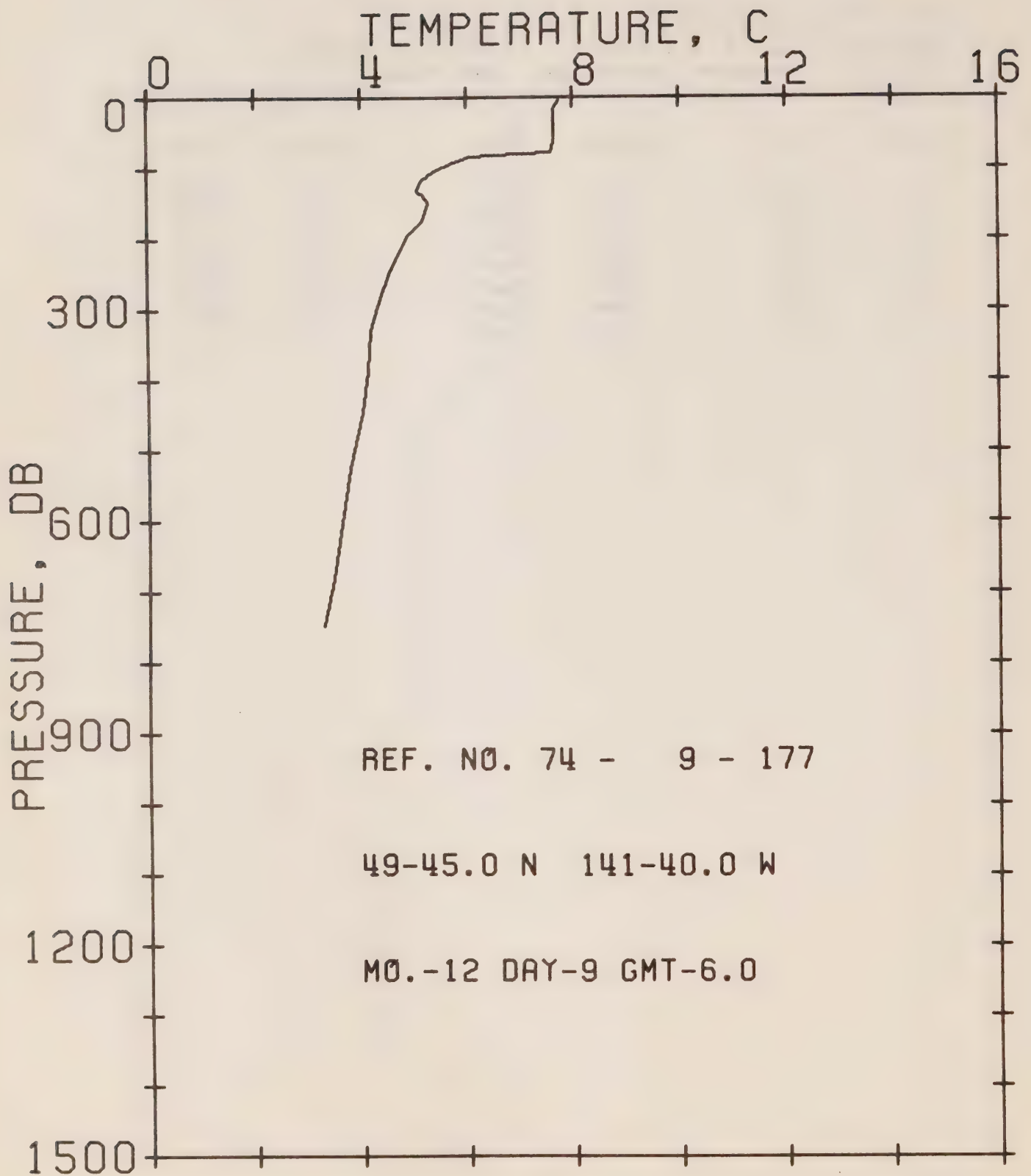
REFERENCE NO. 74- 9-176

DATE 09/12/74

POSITION 49-04.9N 142-04.0W GMT 01.2

RESULTS OF XBT CAST 20 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
4	7.18	83	5.77	171	5.12
30	7.12	88	5.56	180	4.96
54	7.07	95	5.18	201	4.74
72	7.12	100	5.01	226	4.57
75	6.96	116	5.07	247	4.46
76	6.80	128	5.18	272	4.41
79	6.53	153	5.18		



OFFSHORE OCEANOGRAPHY

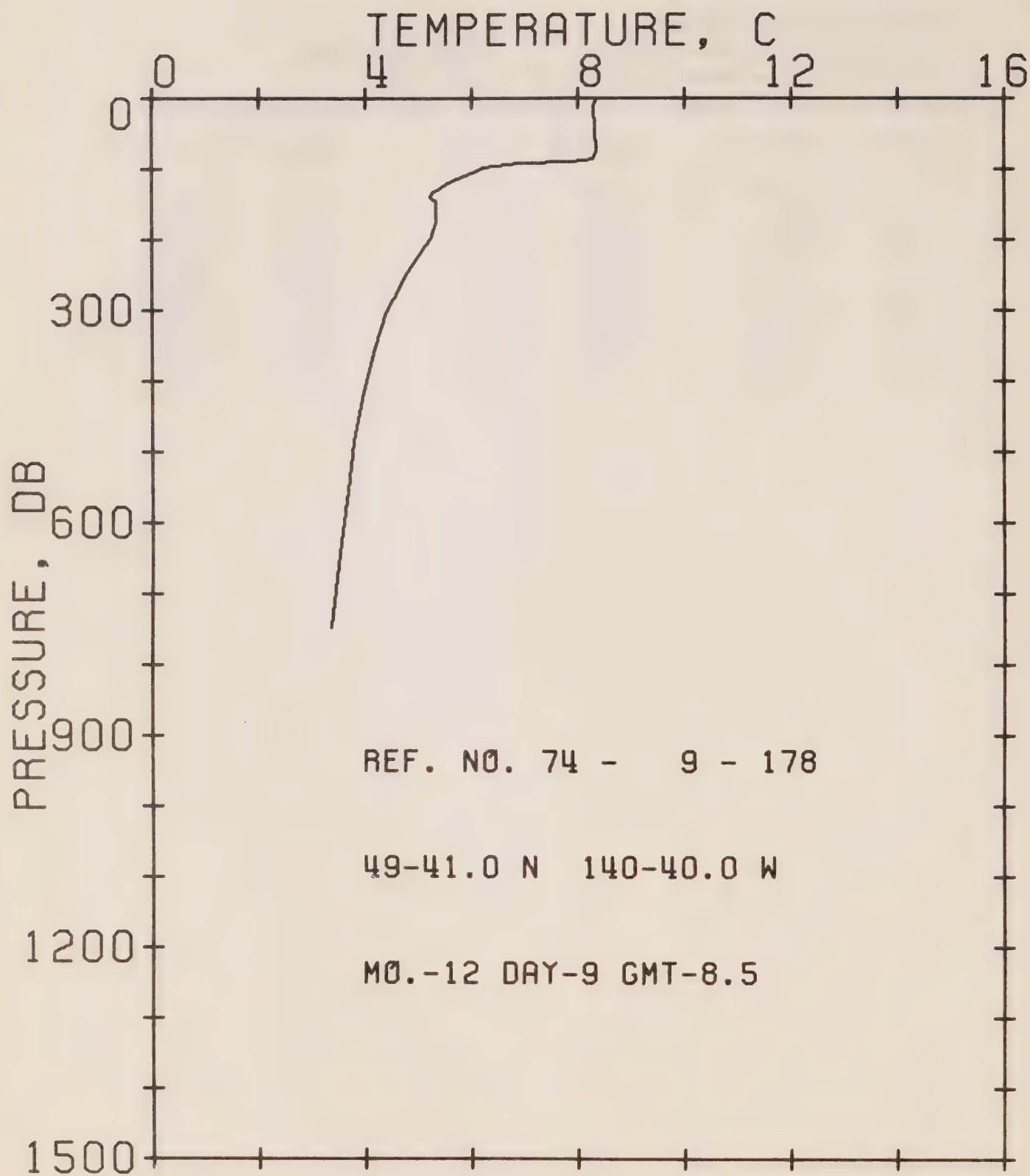
REFERENCE NO. 74- 9-177

DATE 09/12/74

POSITION 49-04.5N 141-04.0W GMT 06.0

RESULTS OF XBT CAST 27 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	7.76	105	5.39	244	4.57
16	7.65	116	5.18	290	4.35
43	7.65	123	5.12	331	4.18
63	7.65	131	5.07	387	4.13
77	7.60	138	5.18	446	4.02
91	6.48	151	5.28	526	3.80
84	6.05	173	5.18	604	3.63
89	5.83	194	4.90	682	3.46
92	5.77	217	4.74	747	3.29



OFFSHORE OCEANOGRAPHY

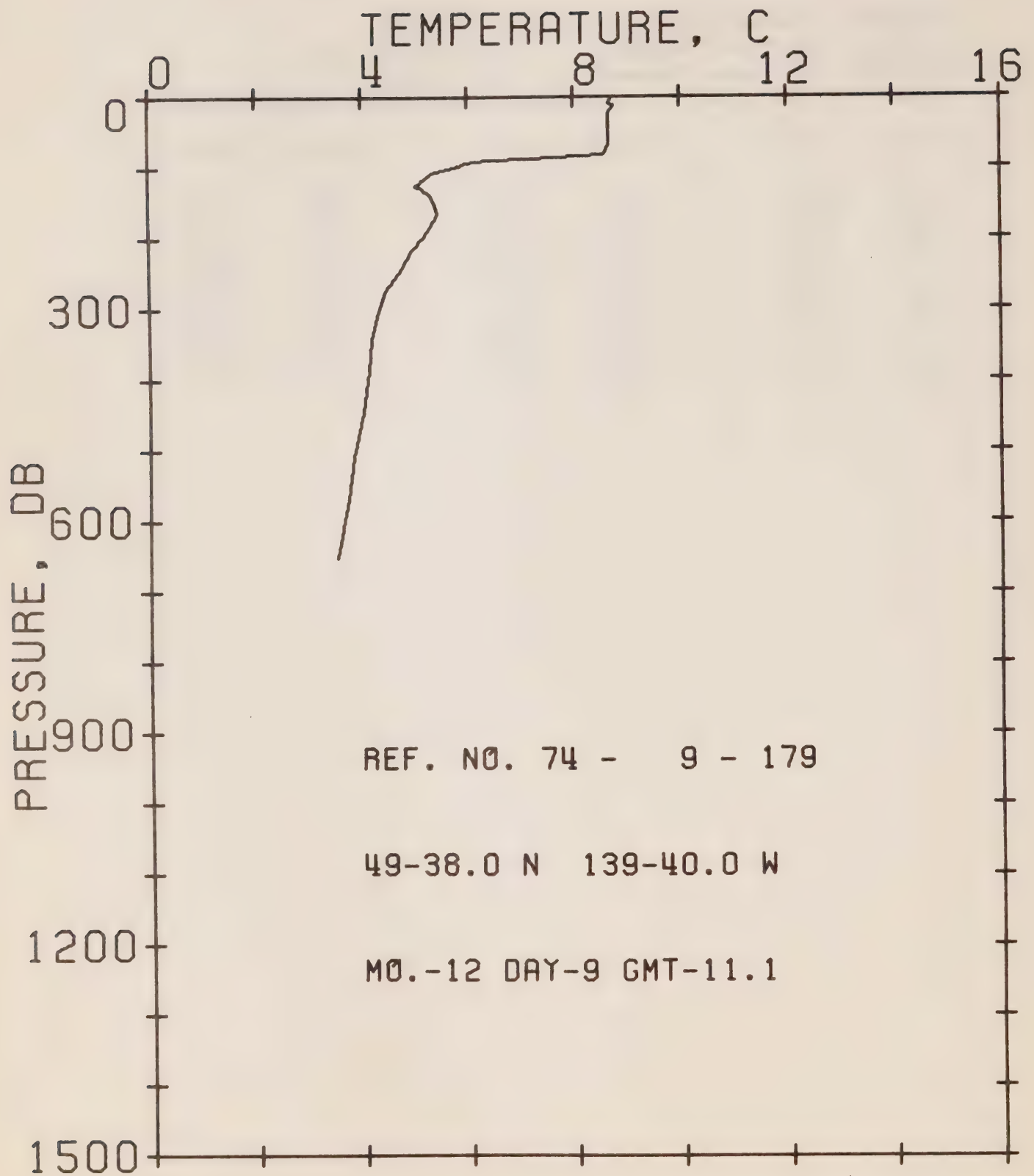
REFERENCE NO. 74- 9-178

DATE 09/12/74

POSITION 49-04.1N 140-04.0W GMT 08.5

RESULTS OF XBT CAST - 25 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	8.34	125	5.45	302	4.41
12	8.29	131	5.28	327	4.30
78	8.34	140	5.23	368	4.13
85	8.29	146	5.34	426	3.96
90	7.87	175	5.34	486	3.80
92	6.91	200	5.23	556	3.68
97	6.21	216	5.07	643	3.52
106	5.99	245	4.79	748	3.35
118	5.61	270	4.63		



OFFSHORE OCEANOGRAPHY

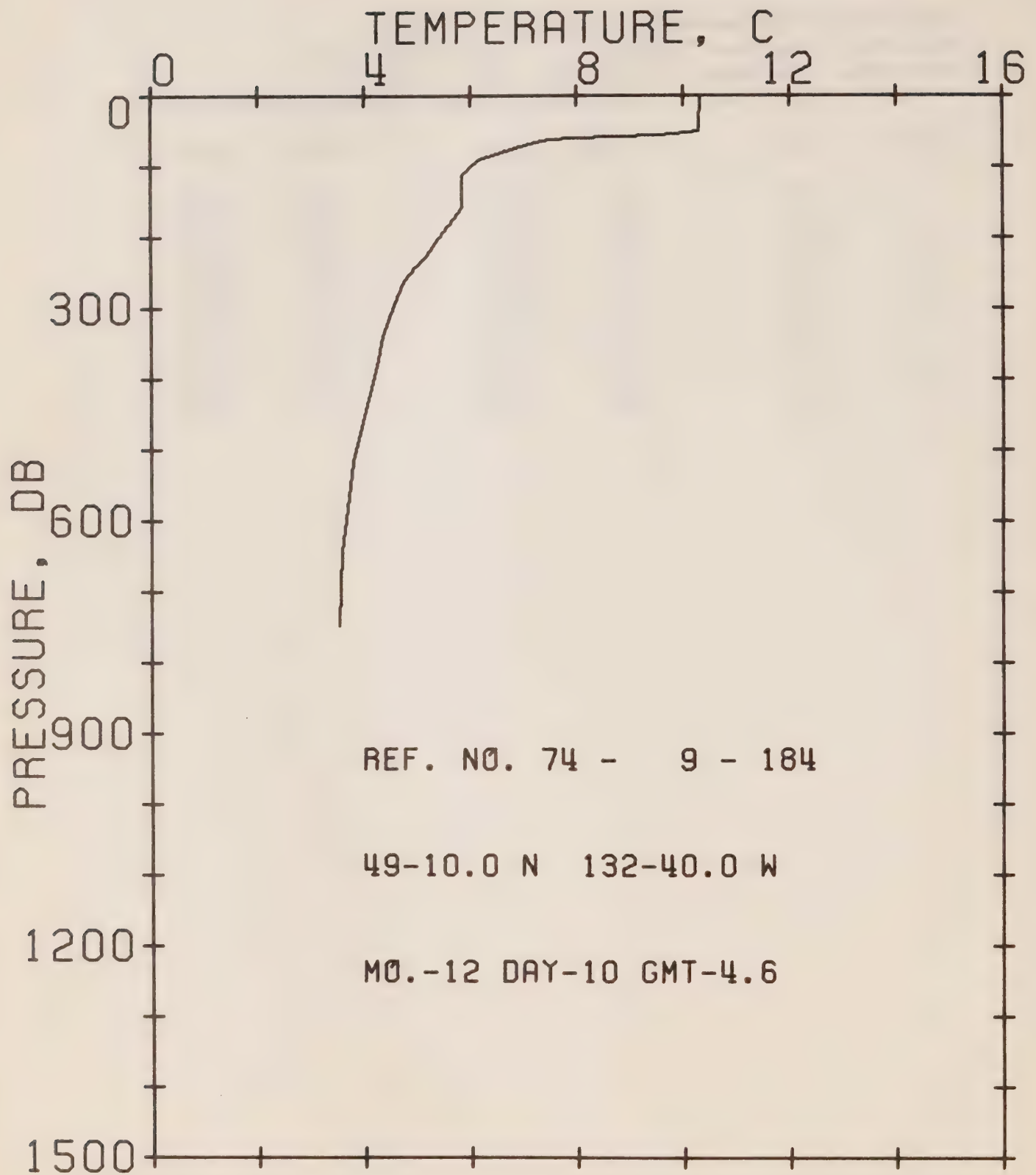
REFERENCE NO. 74- 9-179

DATE 09/12/74

POSITION 49-03.8N 139-04.0W GMT 11.1

RESULTS OF XBT CAST 31 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	8.71	98	5.83	216	4.96
9	8.66	109	5.74	243	4.74
12	8.77	120	5.12	274	4.46
24	8.66	125	5.01	310	4.30
49	8.66	128	5.12	343	4.18
68	8.66	139	5.28	388	4.13
77	8.61	153	5.39	446	4.02
82	8.55	167	5.45	510	3.85
87	7.18	185	5.28	570	3.74
89	6.37	197	5.18	652	3.52
93	5.94				



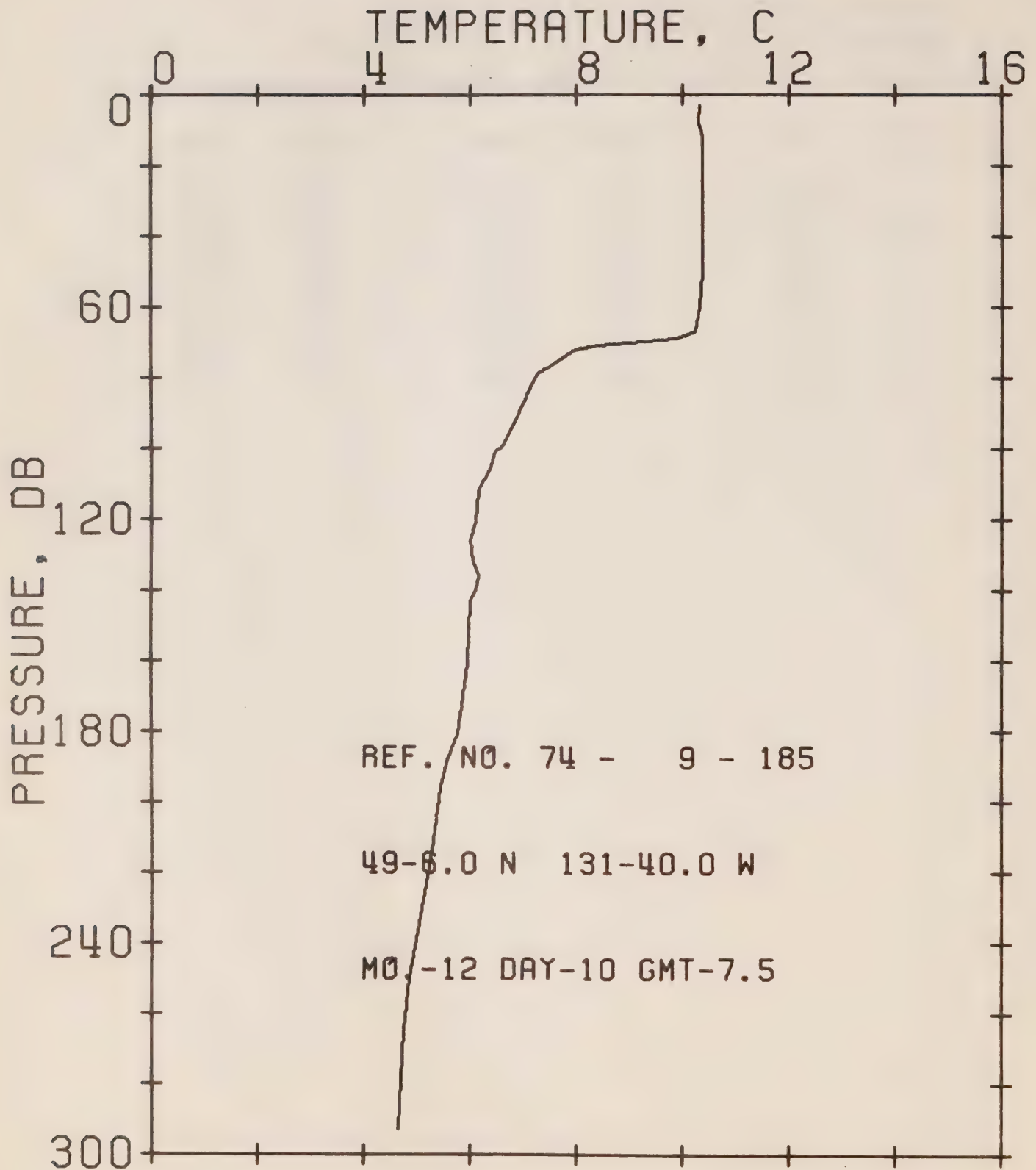
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9-184 DATE 10/12/74

POSITION 49-01.0N 132-04.0W GMT 04.6

RESULTS OF XBT CAST 28 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.33	89	6.15	261	4.74
12	10.33	99	5.99	296	4.57
36	10.28	112	5.83	340	4.35
50	10.28	157	5.83	383	4.24
55	9.55	184	5.56	443	4.02
59	7.92	192	5.50	518	3.80
61	7.50	208	5.34	583	3.68
65	7.23	226	5.18	643	3.57
73	6.85	242	4.96	747	3.52
80	6.59				



OFFSHORE OCEANOGRAPHY

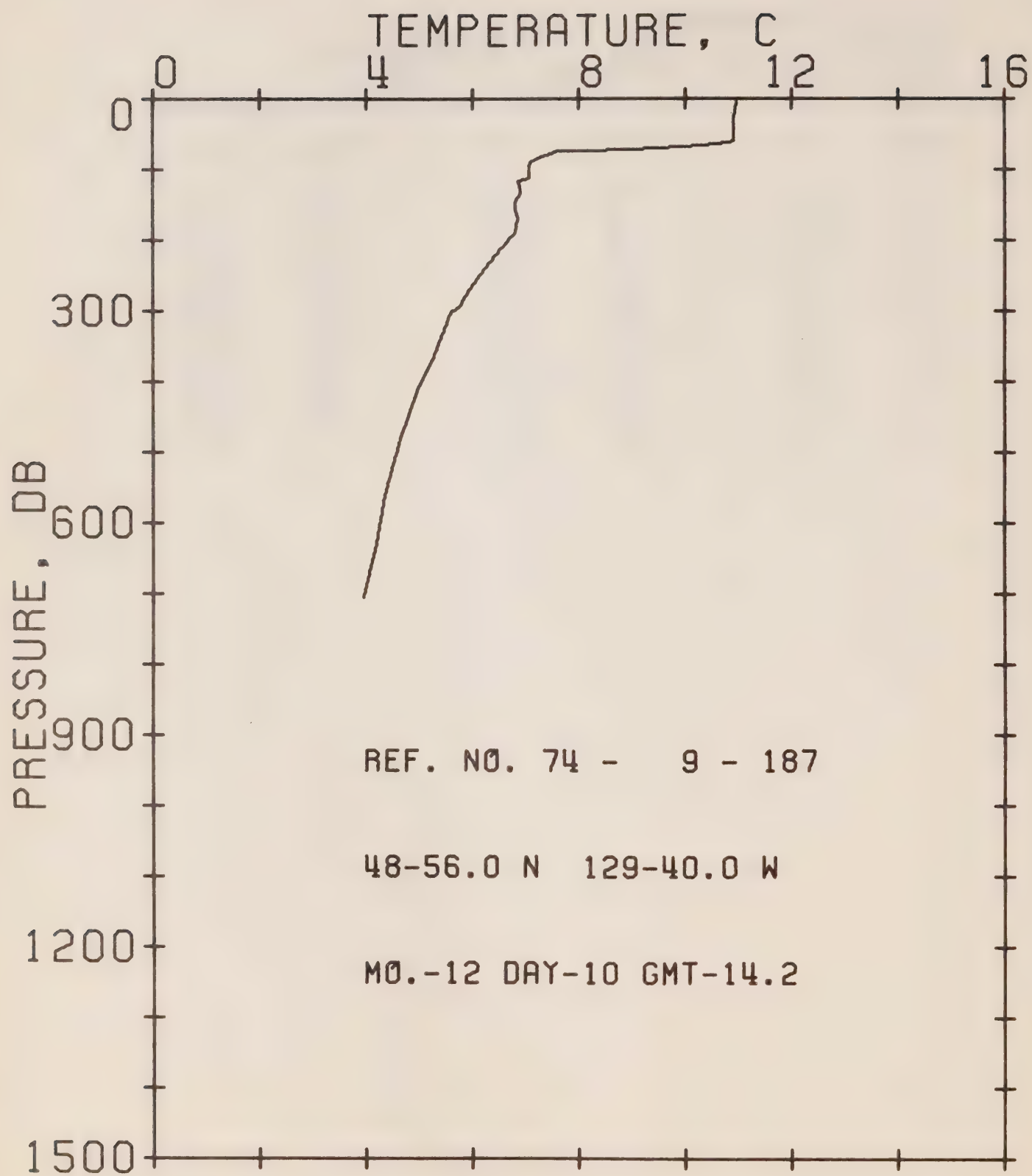
REFERENCE NO. 74- 9-185

DATE 10/12/74

POSITION 49-00.6N 131-04.0W GMT 07.5

RESULTS OF XBT CAST 35 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.33	85	7.07	143	5.99
8	10.28	94	6.80	161	5.94
12	10.38	99	6.64	173	5.83
27	10.38	101	6.48	181	5.77
50	10.39	106	6.37	188	5.56
60	10.33	109	6.26	196	5.45
67	10.23	112	6.15	214	5.28
69	9.86	121	6.10	228	5.12
71	8.40	126	5.99	250	4.85
72	7.97	132	6.05	265	4.74
75	7.65	136	6.15	293	4.63
79	7.28	140	6.10		



OFFSHORE OCEANOGRAPHY

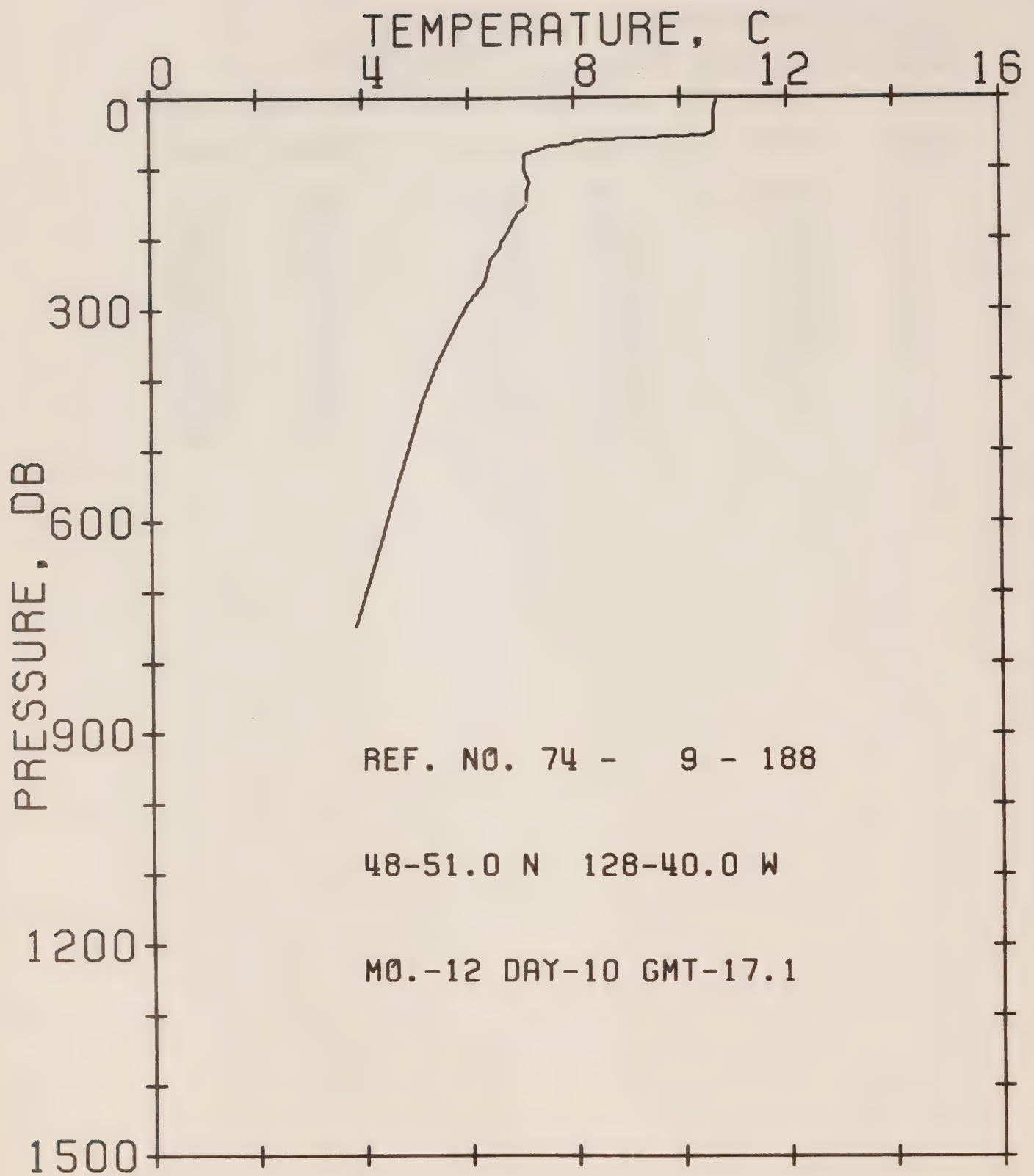
REFERENCE NO. 74- 9-137

DATE 10/12/74

POSITION 48-05.6N 129-04.0W GMT 14.2

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.95	83	7.23	211	6.53
30	10.90	88	7.12	242	6.21
48	10.90	96	7.07	269	5.94
50	10.90	104	7.07	294	5.77
62	10.80	112	7.07	302	5.61
65	10.33	117	6.85	364	5.28
68	9.92	134	6.91	414	4.96
71	8.98	145	6.80	481	4.63
73	8.03	157	6.80	561	4.35
74	7.60	171	6.85	630	4.18
79	7.39	190	6.80	706	3.96



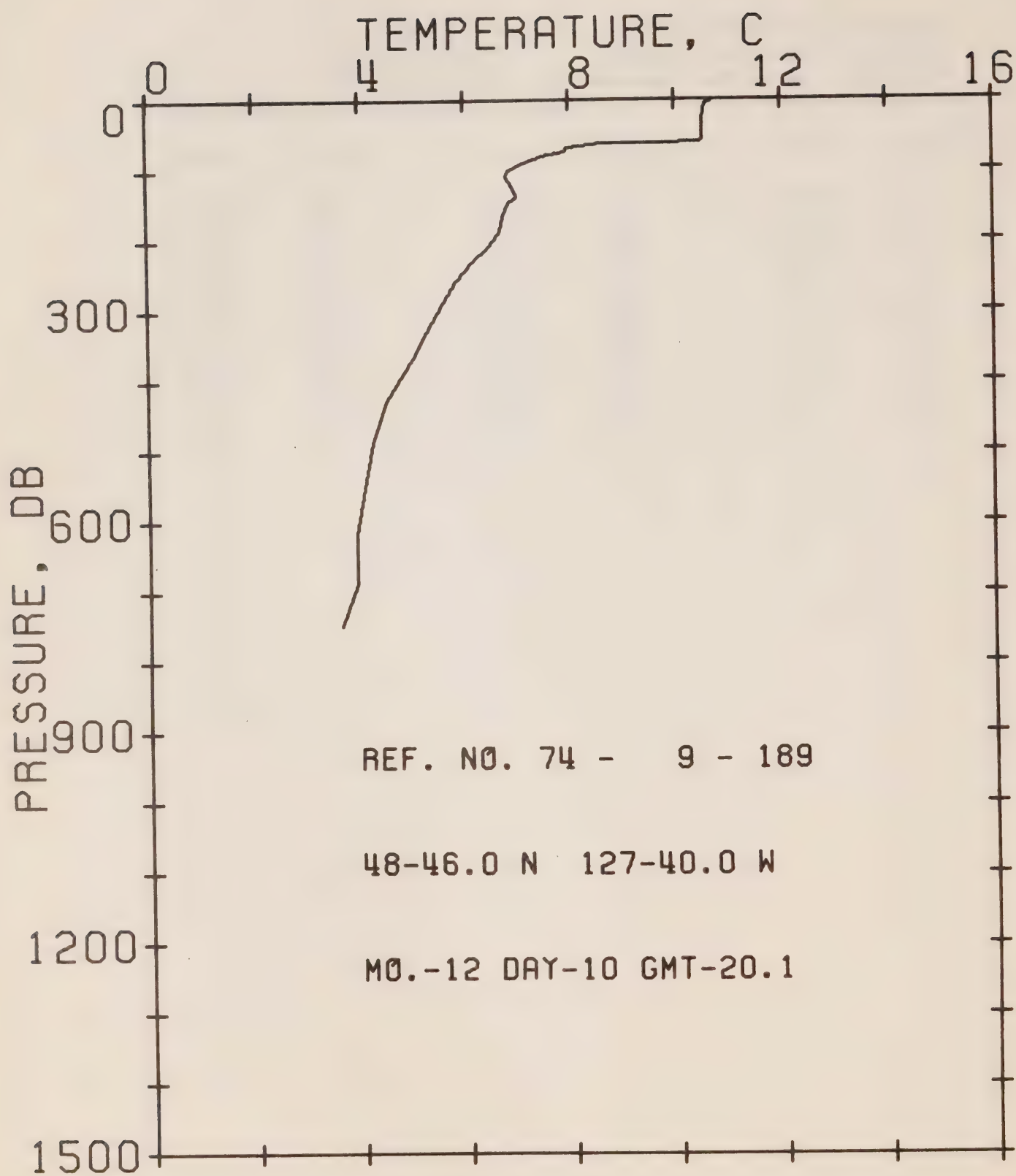
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9-188 DATE 10/12/74

POSITION 48-05.1N 128-04.0W GMT 17.1

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.70	80	7.07	214	6.59
21	10.64	88	7.07	228	6.42
37	10.64	106	7.07	260	6.32
48	10.64	119	7.18	291	5.99
54	10.49	132	7.12	331	5.72
58	9.29	149	7.12	381	5.39
59	8.29	156	7.07	430	5.12
62	8.03	162	6.96	497	4.85
65	7.92	182	6.80	568	4.57
68	7.55	192	6.75	638	4.30
74	7.34	201	6.64	747	3.85



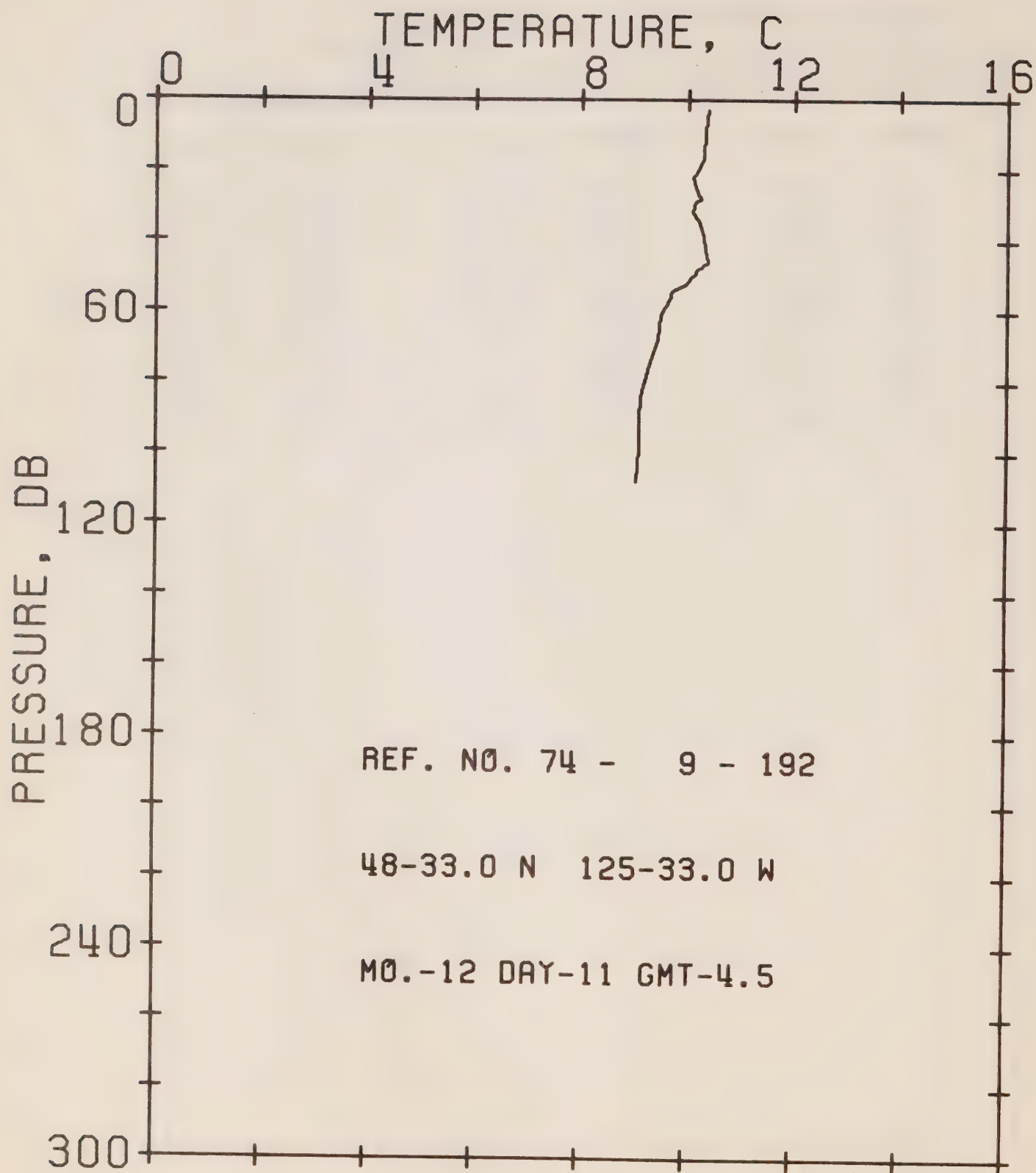
OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9-189 DATE 10/12/74

POSITION 48-04.6N 127-04.0W GMT 20.1

RESULTS OF XBT CAST 33 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
2	10.70	80	7.50	230	6.15
6	10.59	91	7.07	258	5.83
27	10.54	100	6.85	289	5.61
45	10.54	110	6.80	329	5.28
54	10.54	117	6.85	368	5.01
57	10.54	131	6.96	428	4.52
59	10.44	137	7.01	488	4.24
61	9.76	147	6.85	552	4.07
62	8.61	165	6.75	617	3.91
67	7.97	186	6.69	687	3.91
73	7.92	208	6.48	747	3.63



OFFSHORE OCEANOGRAPHY

REFERENCE NO. 74- 9-192

DATE 11/12/74

POSITION 48-03.3N 125-03.3W GMT 04.5

RESULTS OF XBT CAST 24 POINTS TAKEN FROM ANALOG TRACE

DEPTH	TEMP	DEPTH	TEMP	DEPTH	TEMP
3	10.39	32	10.07	57	9.66
9	10.33	34	10.18	61	9.50
17	10.28	39	10.28	68	9.45
20	10.18	43	10.33	75	9.29
22	10.07	46	10.38	84	9.13
25	10.13	48	10.18	91	9.08
28	10.23	52	9.97	99	9.08
29	10.13	54	9.71	108	9.03

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-74-9)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 9

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
74	10	26	30	32.488	9.5	125-33
74	10	26	205	31.987	10.0	126- 0
74	10	26	500	31.526	11.0	126-40
74	10	26	900	31.917	13.0	127-40
74	10	26	1230	32.001	13.5	128-40
74	10	26	1505	32.376	14.9	129-40
74	10	26	1805	32.552	14.2	130-40
74	10	27	10	32.438	13.5	132-40
74	10	27	615	32.442	12.9	134-40
74	10	29	0	32.488	10.3	ON STATION
74	10	30	0	32.488	10.3	ON STATION
74	10	31	0	32.488	10.2	ON STATION
74	11	1	0	32.493	10.3	ON STATION
74	11	2	0	32.493	10.2	ON STATION
74	11	3	0	32.493	9.8	ON STATION
74	11	4	0	32.483	9.7	ON STATION
74	11	5	0	32.483	10.0	ON STATION
74	11	6	0	32.483	10.0	ON STATION
74	11	7	0	32.487	9.8	ON STATION
74	11	8	0	32.487	9.4	ON STATION
74	11	9	0	32.523	9.6	ON STATION
74	11	10	0	32.523	9.2	ON STATION
74	11	11	0	32.526	9.6	ON STATION
74	11	12	0	32.522	9.3	ON STATION
74	11	13	0	32.497	9.4	ON STATION
74	11	14	0	32.496	9.3	ON STATION
74	11	15	0	32.514	9.1	ON STATION
74	11	16	0	32.517	9.1	ON STATION
74	11	17	0	32.541	9.2	ON STATION
74	11	18	0	32.525	8.8	ON STATION
74	11	19	0	32.542	8.8	ON STATION
74	11	20	0	32.552	8.6	ON STATION
74	11	21	0	32.559	8.5	ON STATION
74	11	22	0	32.565	8.3	ON STATION
74	11	23	0	32.549	8.3	ON STATION
74	11	24	0	32.549	8.5	ON STATION
74	11	25	0	32.561	8.2	ON STATION
74	11	26	0	32.568	7.9	ON STATION
74	11	27	0	32.580	7.9	ON STATION
74	11	28	0	32.573	8.2	ON STATION
74	11	29	0	32.562	7.9	ON STATION
74	11	30	0	32.584	8.1	ON STATION
74	12	1	0	32.567	7.8	ON STATION
74	12	2	0	32.567	8.1	ON STATION
74	12	3	0	32.552	8.1	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 9

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
74	12	3	0	32.552	8.1	ON STATION
74	12	4	0	32.558	7.8	ON STATION
74	12	5	0	32.559	8.0	ON STATION
74	12	6	0	32.559	7.8	ON STATION
74	12	7	0	32.574	7.7	ON STATION
74	12	8	0	32.570	7.6	ON STATION
74	12	9	0	32.612	7.1	142-48
74	12	9	130	32.582	7.2	142-40
74	12	9	830	32.561	8.3	140-40
74	12	9	1350	32.468	8.8	138-40
74	12	9	1825	32.517	9.1	136-40
74	12	9	2320	32.359	9.6	134-40
74	12	10	440	32.495	10.3	132-40
74	12	10	1025	32.557	10.4	130-40
74	12	10	1710	32.317	10.6	128-40
74	12	10	2010	32.388	10.6	127-40
74	12	10	2315	32.330	10.6	126-40
74	12	11	215	32.096	10.0	126- 0
74	12	11	430	31.984	10.6	125-33

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-74-10

(CODC REFERENCE No. 15-74-010)

BATHYTHERMOGRAPH OBSERVATIONS

(P-74-10)

BATHYTHERMOGRAPH OBSERVATIONS

This section includes all B.T.'s taken on Line P outbound and inbound, and one a day on Station P.

Although B.T.'s at Station P were taken every three hours, only the one taken at 1800 GMT has been shown.

Weather conditions on Line P sometimes force the cancellation of a B.T., in that case an X.B.T. was taken. These X.B.T.'s are shown following the B.T.'s.

EXPLANATION OF HEADINGS

Example: 0030/ 13-04-74

48° 34' N.

125° 30' W.

0030 = Time in GMT

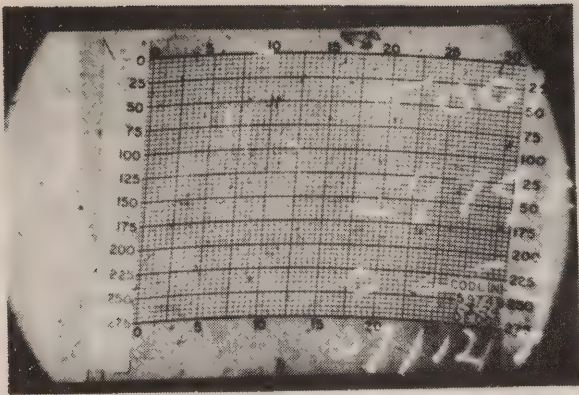
13 = Day

04 = Month

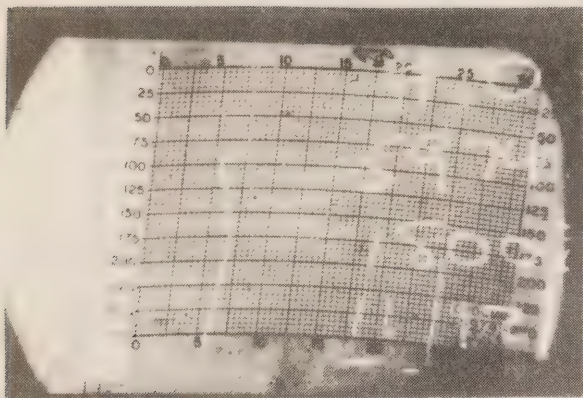
74 = Year

48° 34' N. = Latitude

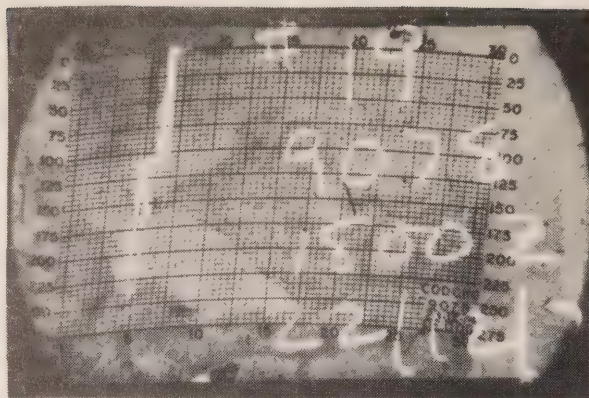
125° 30' W. = Longitude



0145/ 07-12-74
48° 33' N.
125° 32' W.



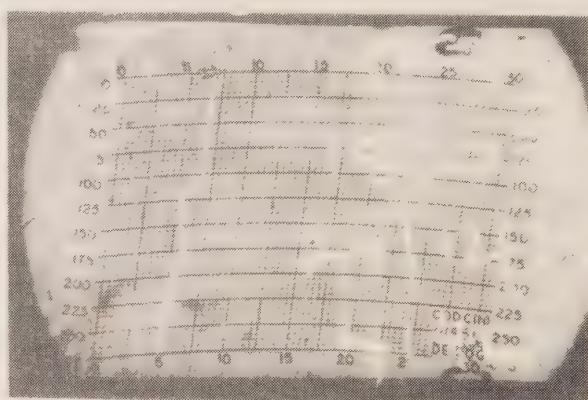
1800/ 11-12-74
 49° 57' N.
 145° 00' W.



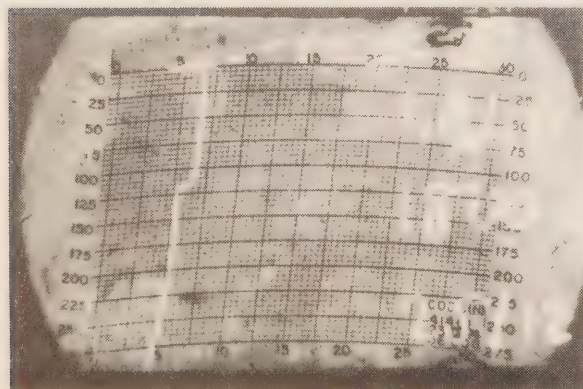
1800/ 22-12-74
 50° 20' N.
 145° 03' W.



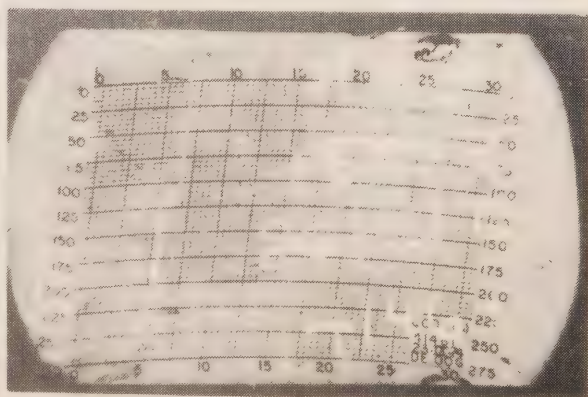
1800/ 23-12-74
 49° 36' N.
 145° 18' W.



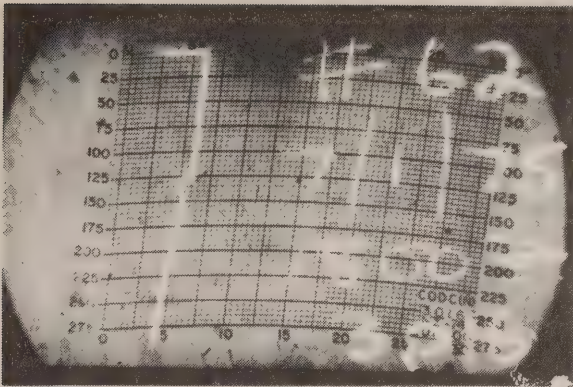
1800/ 24-12-74
 50° 03' N.
 144° 39' W.



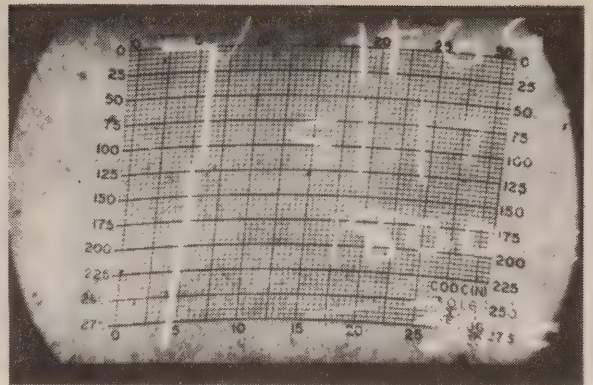
1800/ 25-12-74
 50° 04' N.
 145° 22' W.



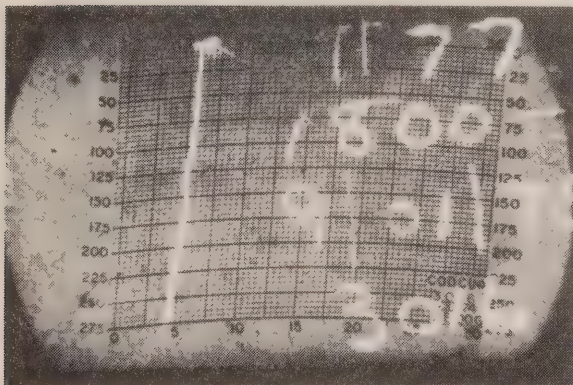
1800/ 26-12-74
 50° 05' N.
 145° 13' W.



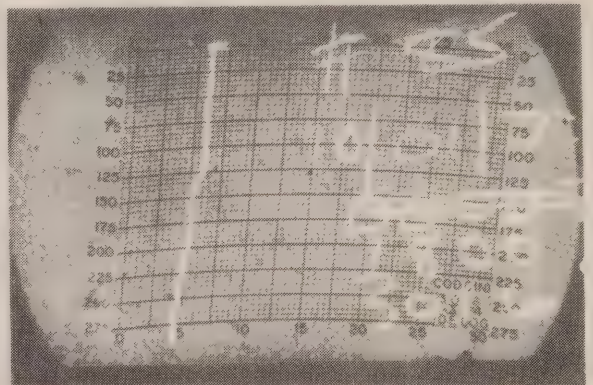
1800/ 07-01-75
 50° 00' N.
 145° 00' W.



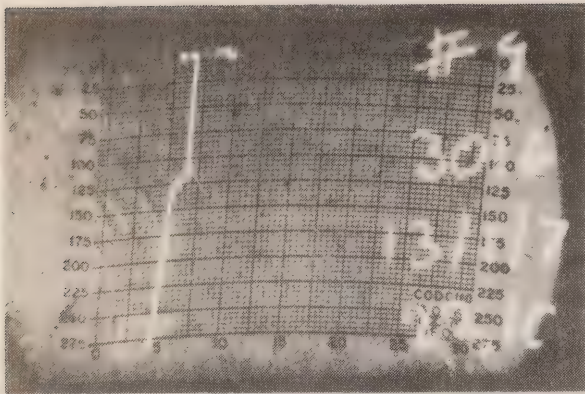
1800/ 08-01-75
 50° 03' N.
 144° 57' W.



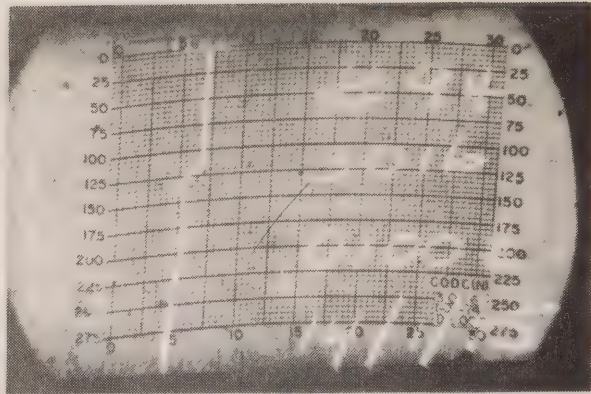
1800/ 09-01-75
 50° 09' N.
 144° 55' W.



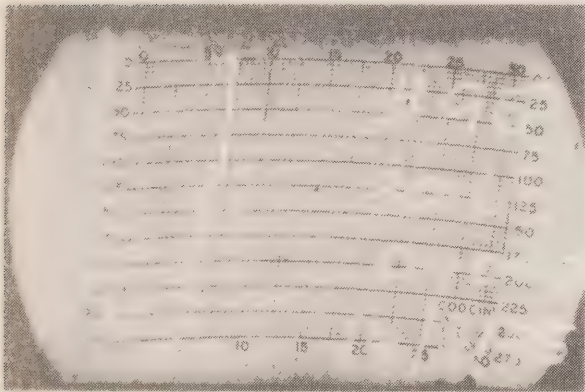
1800/ 10-01-75
 49° 59' N.
 145° 06' W.



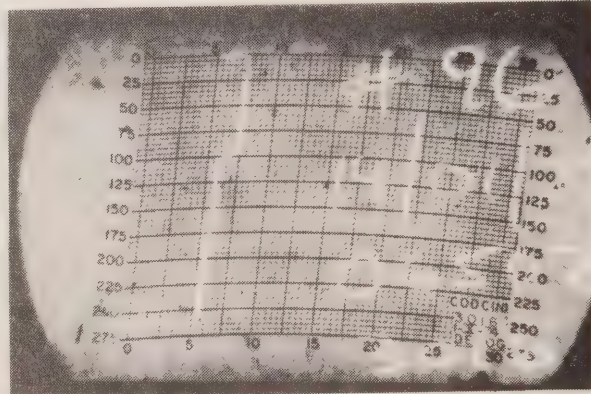
2210/ 13-01-75
49° 30' N.
137° 40' W.



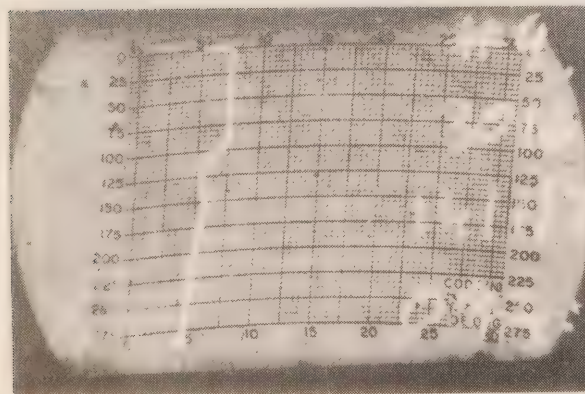
0100/ 14-01-75
49° 26' N.
136° 40' W.



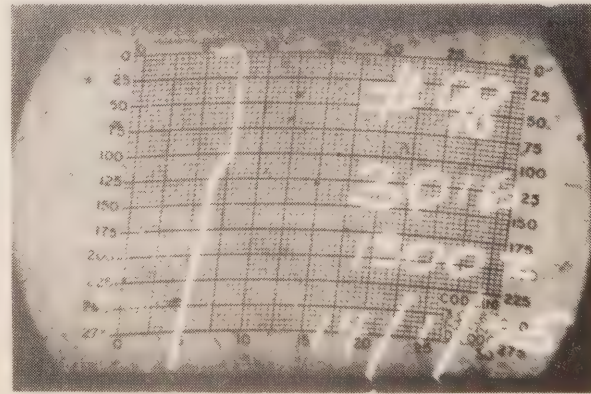
0400/ 14-01-75
49° 20' N.
135° 40' W.



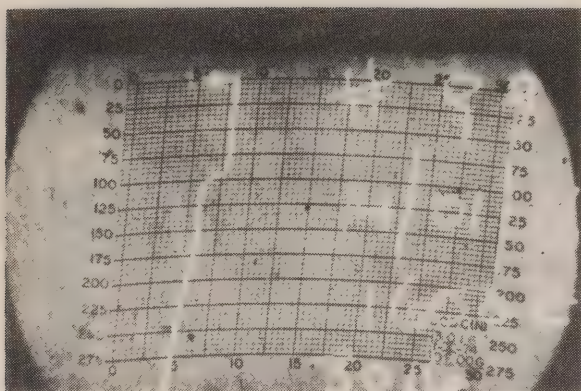
0650/ 14-01-75
49° 19' N.
134° 40' W.



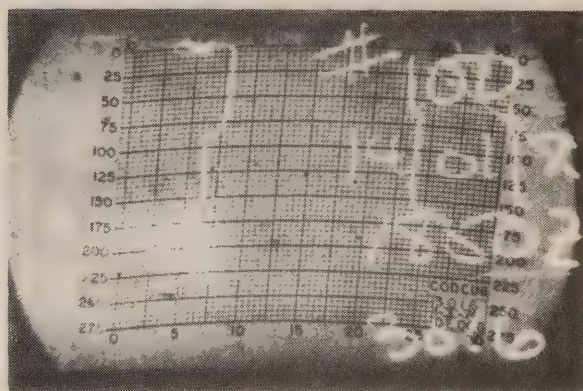
0945/ 14-01-75
49° 13' N.
133° 40' W.



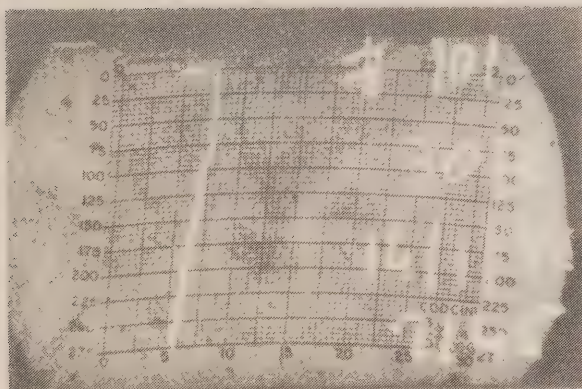
1300/ 14-01-75
49° 10' N.
132° 40' W.



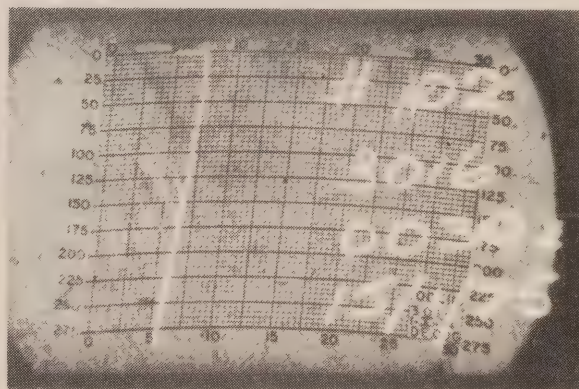
1600/ 14-01-75
 49° 04' N.
 131° 40' W.



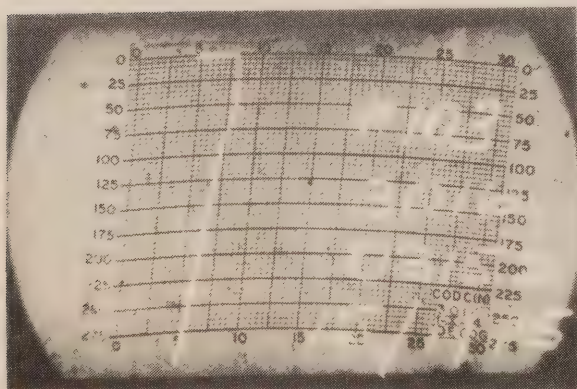
1850/ 14-01-75
 49° 00' N.
 130° 40' W.



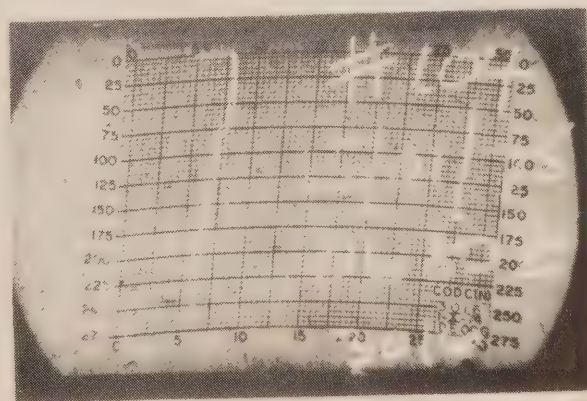
2145/ 14-01-75
 48° 55' N.
 129° 40' W.



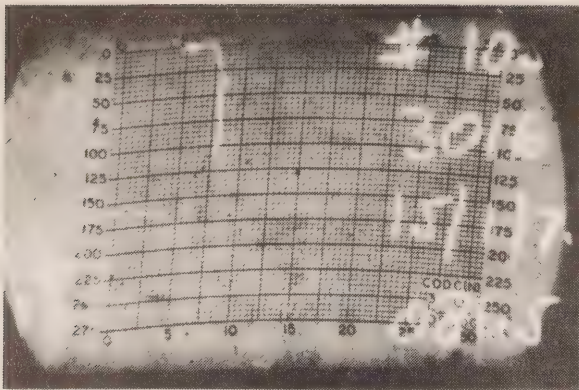
0030/ 15-01-75
 48° 51' N.
 128° 40' W.



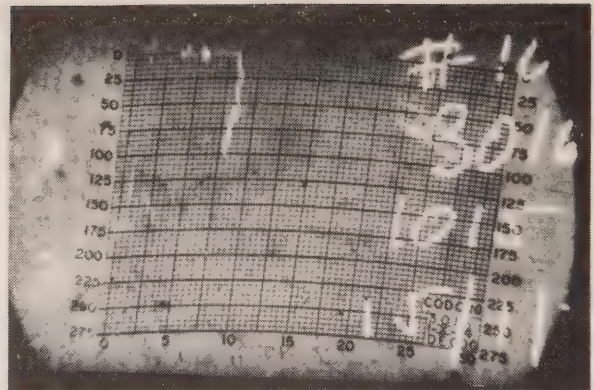
0315/ 15-01-75
 48° 46' N.
 127° 40' W.



0630/ 15-01-75
 48° 42' N.
 126° 40' W.



0845/ 15-01-75
 48° 38' N.
 126° 00' W.



1015/ 15-01-75
 48° 33' N.
 125° 32' W.

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-74-10)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 10

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
74	12	7	145	32.081	9.7	125-33
74	12	7	400	32.143		126- 0
74	12	7	510	32.348		126-40
74	12	7	815	32.477		127-40
74	12	7	1115	32.302		128-40
74	12	7	2230	32.469	10.5	132-40
74	12	8	400	32.360	9.8	134-40
74	12	8	1000	32.501	9.3	136-40
74	12	8	1600	32.464	8.7	138-40
74	12	8	1915	32.516	8.7	139-40
74	12	8	2200	32.552	8.3	140-40
74	12	9	540	32.585		142-40
74	12	9	1500	32.647		143-40
74	12	10	0	32.582	7.4	ON STATION
74	12	11	0	32.579	7.4	ON STATION
74	12	12	0	32.543	7.3	ON STATION
74	12	13	100	32.577	7.4	140-42
74	12	13	1430	32.471		138-40
74	12	14	315	32.489		136-40
74	12	14	1445	32.366	9.2	134-40
74	12	15	115	32.481		132-40
74	12	15	815	32.594	9.9	130-40
74	12	15	1445	32.459		128-40
74	12	15	2230	32.137		126-40
74	12	16	130	31.779		126- 0
74	12	16	300	31.462		125-33
74	12	18	1115	31.908		125-33
74	12	18	1320	31.783		126- 0
74	12	19	130	32.426		128-40
74	12	19	0	31.982		130-40
74	12	19	1645	32.492		132-40
74	12	22	0	32.602	6.8	ON STATION
74	12	23	0	32.636	6.5	ON STATION
74	12	24	0	32.585	6.9	ON STATION
74	12	25	0	32.606	7.0	ON STATION
74	12	26	1	32.610	6.5	ON STATION
74	12	27	0	32.617	6.6	ON STATION
74	12	28	0	32.620	6.7	ON STATION
74	12	29	1	32.603	6.9	ON STATION
74	12	30	1	32.620	6.7	ON STATION
74	12	31	1	32.628	6.8	ON STATION
75	1	1	0	32.621	6.6	ON STATION
75	1	2	1	32.596	6.6	ON STATION
75	1	3	1	32.607	6.3	ON STATION
75	1	4	1	32.737	5.2	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 74- 10

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
75	1	4	1	32.737	5.2	ON STATION
75	1	7	1	32.672	5.9	ON STATION
75	1	8	1	32.644	6.1	ON STATION
75	1	9	1	32.638	5.8	ON STATION
75	1	10	1	32.669	5.7	ON STATION
75	1	11	1	32.629	6.1	ON STATION
75	1	12	1	32.624	6.3	ON STATION
75	1	13	1	32.654	5.9	ON STATION
75	1	13	1025	32.634		141-40
75	1	13	1415	32.600		140-40
75	1	13	1645	32.582		139-40
75	1	13	1930	32.572		138-40
75	1	13	2210	32.532	6.7	137-40
75	1	14	100	32.518	6.9	136-40
75	1	14	400	32.460	7.1	135-40
75	1	14	650	32.413	7.5	134-40
75	1	14	945	32.402	7.5	133-40
75	1	14	1300	32.500	7.8	132-40
75	1	14	1600	32.517	8.1	131-40
75	1	14	1845	32.581	8.1	130-40
75	1	14	2145	32.463	7.7	129-40
75	1	15	30		7.5	128-40
75	1	15	315	32.269	8.0	127-40
75	1	15	630	31.918	8.0	126-40
75	1	15	845	30.997	7.6	126- 0
75	1	15	1015	31.983	8.3	125-33



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